

The
CHEMIST AND DRUGGIST

Established 1859

28 Essex Street, Strand, London, W.C.2.

Registered as a Newspaper

No. 2695
VOL. CXV.

OCTOBER 3, 1931

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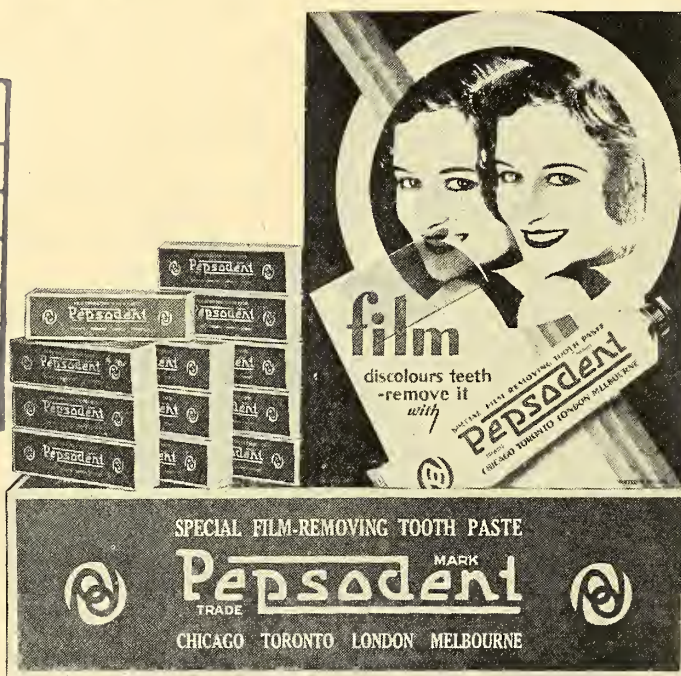
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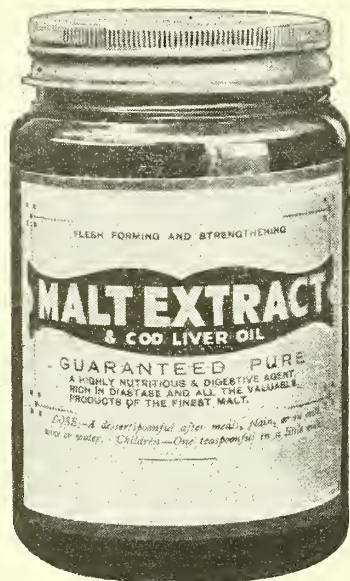
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with **COD LIVER OIL**



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Address _____

(or slip label)

Please tear this out and post with your next order.

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	per doz. —	—	—	11lb. 7/6	2lb. 13/9

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	per doz. 6/7	8/6	15/-	28/-	48/6
DRUMS—	per doz. —	7/-	12/9	—	—

Contracts for requirements to June 30th, 1932, will be subject to the following discounts to be allowed by credit note at the end of season.

1 gross	3 gross	9 gross	15 gross	30 gross	1 lbs. or equivalent.
2 $\frac{1}{2}$ %	5%	7 $\frac{1}{2}$ %	10%	12 $\frac{1}{2}$ %	

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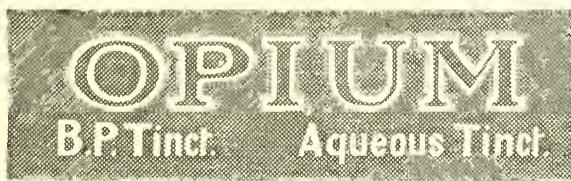
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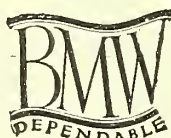
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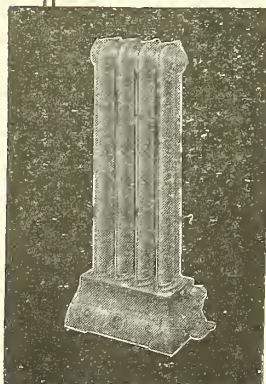
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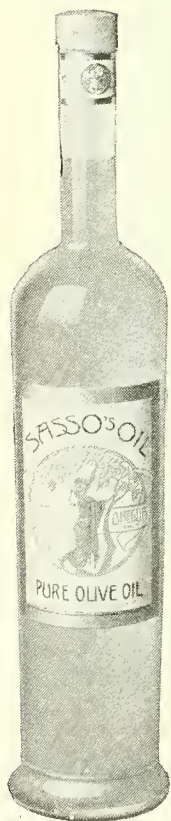
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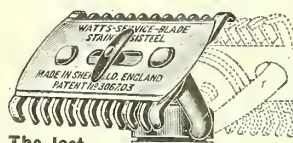
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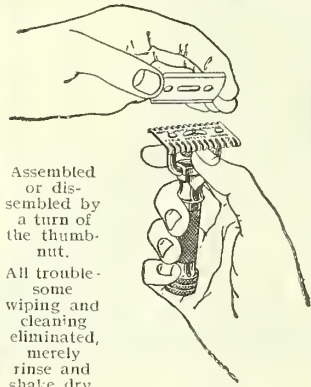
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Keeps the hair in position and acts as a Tonic and Invigorator. Retail 1/- per tin. Wholesale 8/- per doz. Discount on larger quantities. Write for full particulars.

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Only three years ago Harriet Hubbard Ayer beauty preparations began to be sold in Great Britain. To-day they are used regularly by an ever-growing number of discriminating British women—stocked by important retailers all over the country.

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The retail prices of the famous LUXURIA Cream are 2/3 4/=-, 8/6, 11/9.

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There's
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preference
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ANZORA!



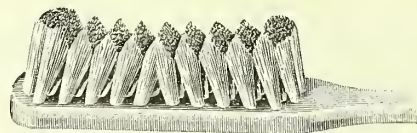
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Gent's 11/-

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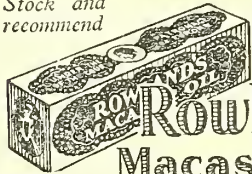


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Stock and
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Of all Wholesalers,
to retail at 2/6,
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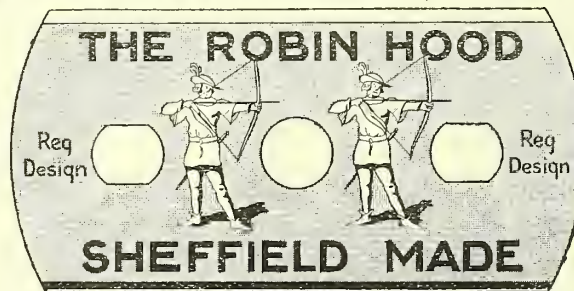
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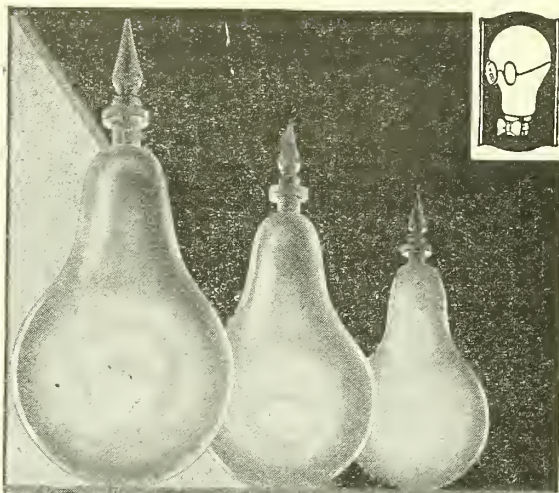
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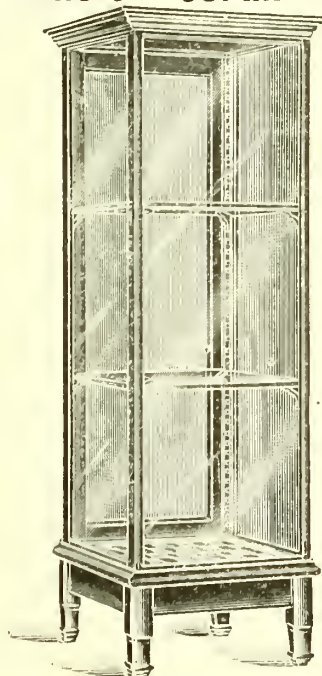
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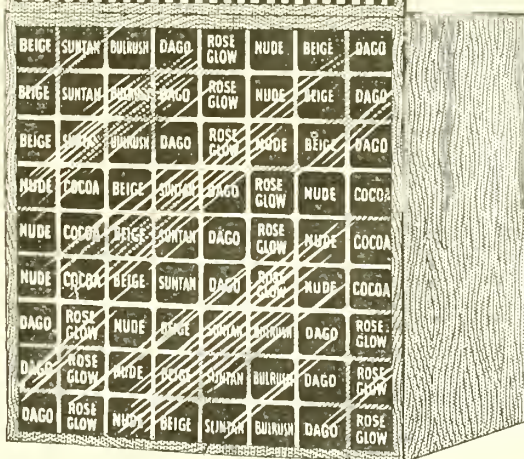
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Car Service at Motor-cycle cost!

The 75 Gns. Delivery Van is here

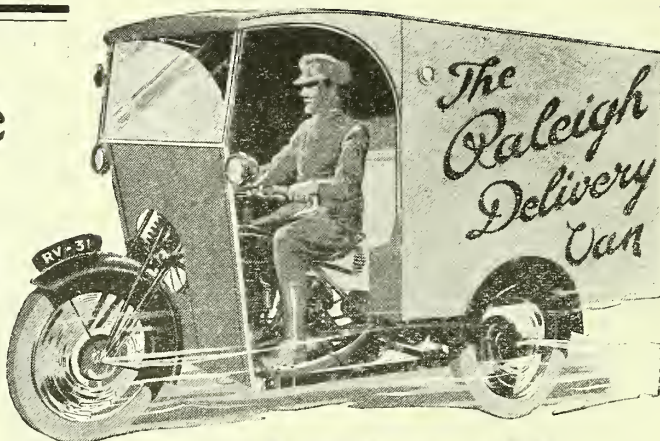
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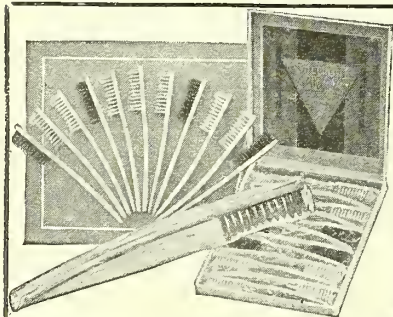
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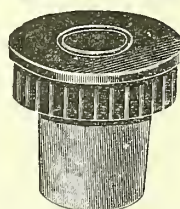


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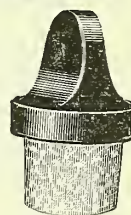
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The sure destructive agent which may be
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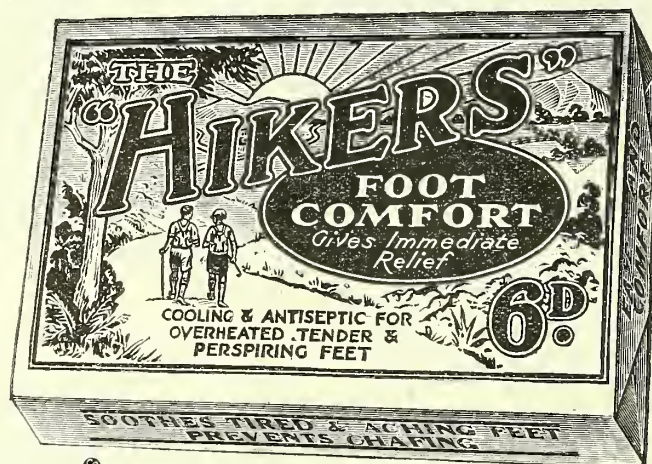
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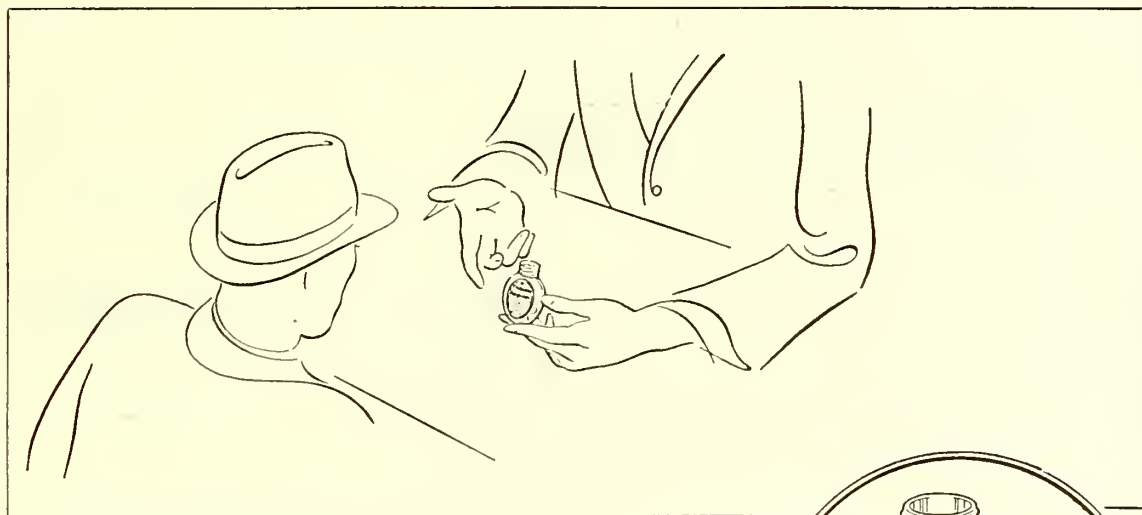
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News of the Week

Key Industries

Application has been made to the Board of Trade under Section 10 (5) of the Finance Act, 1926, to exempt ethyl acetate from liability to duty under Part I of the Safeguarding of Industries Act, 1921. Communications regarding this application should be addressed to the Principal Assistant Secretary, Board of Trade (I. & M.), Great George Street, London, S.W.1, on or before October 30 next.

Visits to Works

On September 17 a party of members of the South-East London Chemists' Association visited the Cow and Gate factories at Wincanton and Somerton. The party, under the guidance of Mr. Hart (assistant sales manager), assembled at Waterloo Station, when they journeyed to Templecombe and thence by omnibus to Wincanton. Here they were received by Mr. Sandigate, by whom they were conducted over the premises. Considerable interest was taken in the machinery used, and also in the elaborate system for checking the quality of the milk sent in. The party were entertained to luncheon at the White Horse Hotel, following which the journey to Somerton through characteristic Somerset scenery was taken. At Somerton the very modern packing factory was inspected. Returning to Wincanton tea was taken, after which a vote of thanks to Cow and Gate, Ltd., was proposed by Mr. J. J. G. Hay (president of the Association). Mr. Hart replied on behalf of the company.

A party of thirty-five chemists and assistants from the West Middlesex Pharmaceutical Association paid a visit to the Kodak Works at Harrow on September 23. The departments visited included those devoted to making and grinding lenses, cutting and packing Velox paper, developing and printing films; enlarging, retouching and colouring processes were also seen. The

making of the Hawk Eye camera showed the speed with which this model is manufactured. One of the most interesting items of the tour was witnessing the making of the new Kodatoy, of which 10,000 were in course of construction. Not the least instructive part of the visit was the museum, where every camera model made by Messrs. Kodak was exhibited. At the conclusion of the tour the visitors were entertained to tea. Mr. J. Alcock (president of the Association) voiced the thanks of the visitors for the educational tour afforded them. This was supported by Mr. T. Marns (member of the Pharmaceutical Society's Council), and was responded to by Mr. Talbot on behalf of Messrs. Kodak.

Optical Trade Exhibition and Congress

An exhibition under the auspices of the Association of Wholesale and Manufacturing Opticians is being held at the Holborn Hall, London, W.C. After the formal opening on September 29 a luncheon was held at the Holborn Restaurant, and was followed by an historical pageant illustrating the development of ophthalmic frames. The exhibition, at which most of the leading manufacturers were represented, closes on October 1. Coincident with the exhibition is held an Optical Congress (organised by the "Optician").

Inquests

At the resumed inquest, on September 18, on Violet H. B. Williams, who was found dying on the cliffs at Roedean, Brighton, on August 29, a Mr. Amor said that deceased suffered from insomnia and had been taking veronal on doctors' prescriptions. Some weeks ago she sent to a chemist's for two dozen powders. Mr. W. D. Peskett (the coroner): Did you write a letter for those prescriptions?—I believe I wrote to one place and I believe she wrote to another. Did she give you as a reason for ordering such a large quantity that

she did not wish to bother the chemist too many times?—Yes. It was stated that the cause of death was veronal poisoning, and a verdict of "Suicide while of unsound mind" was recorded.

Birmingham

A firm in Smallbrook Street has installed a "self-lighting" device in its windows in connection with the Faraday celebration. It is understood that the lighting is effected on the invisible ray principle.

At a meeting of the Council of the Birmingham Pharmaceutical Association, held on September 21, the following officers were elected for the ensuing year:—*President*, Mr. C. V. Thompson; *Sen. Vice-President*, Mr. Maurice Smith; *Junior Vice-President*, Mr. B. W. Shaw; *Treasurer*, Alderman J. Poole, *Librarian*, Mr. H. Berry; *Auditors*, Messrs. T. Newey, junr., and A. E. Southerton; *Secretary*, Mr. D. J. Rushton.

The report of the public analyst for Birmingham (Mr. H. H. Bagnall, B.Sc.) for the second quarter of 1931 states that the percentage of adulteration of all samples taken was 11.0, compared with 3.2 for the corresponding quarter of last year. Most of the samples taken, however, were samples of milk. Mr. Bagnall mentions a sample of baking powder which on the addition of water was found to contain only 4.2 per cent. of carbon dioxide. The manufacturers claim that the lowest quality made by them should yield 6 per cent. of available carbon dioxide, and are looking into the matter.

Sheffield

Chemists will be well advised to examine from time to time the efficiency of their dispensing balances.

Prescriptions for "dangerous" drugs, when issued in duplicate by the Public Assistance medical officers, must be treated as ordinary (not as insurance) prescriptions.

Manchester

The annual competition for the Woolley trophy and replica by members of the Manchester and District Pharmacists' Golfing Society was held at Prestwick Golf Club on September 16. The weather conditions were ideal. Trophy and replica was won by Mr. J. A. Collins from scratch with a score of 70. The second prize, provided by the Society, was won by Mr. W. J. McCutcheon, 91 - 20 = 71. The other leading scores were:—E. N. Fox, 88 - 15 = 73; W. A. Sturdy, 77 - 2 = 75; J. W. Aves, scratch, 77; T. Miller, 88 - 11 = 77. The prizes were presented by Mr. G. S. Woolley, a director of James Woolley, Sons & Co., Ltd.

The annual meeting of the Manchester and District Pharmacy Club was held on September 16 at the Clydesdale Club, Turner Street. The chairman (Mr. J. H. Franklin) said he was pleased to see such a good attendance. Mr. A. E. Thorpe (secretary) gave a report of the year's work, which might be looked upon as having been fairly satisfactory, though there was still room for improvement. Mr. H. Brindle (treasurer) submitted the annual balance sheet, which showed a credit balance of 30s. The two reports were adopted. There was a general discussion as to the future of the Club. The board of management, the treasurer and the secretary were re-elected and thanked for their services. A cordial vote of thanks to the chairman for his services was passed.

Miscellaneous

POISON-LICENCE APPLICATIONS.—Mr. John M. Evans, Medical Hall, Tregaron, has applied to the Cardiganshire County Council for a licence to sell agricultural and horticultural poisons.—Application for a similar licence has been made to the East Sussex County Council by Mr. J. P. Kennedy, Rotherfield.

DANGEROUS DRUGS ACTS.—At Kendal Petty Sessions, on September 23, Dr. David Mitchell Macdonald, Arncliffe, Westmorland, was charged on twenty-three counts with failing to record purchases of heroin and cocaine from chemists. The defendant (who, it was stated,

was suffering intermittently from angina pectoris) was fined £100, with costs.

FARADAY CENTENARY.—In connection with the Faraday centenary, during the period in which the meetings and celebrations in honour of his memory and achievements were being held, that portion of the Wellcome Chemical Works, Dartford, which is on the water front was illuminated by floodlighting. This form of illumination was rendered additionally effective by the reflections in the water.

SPORTING EVENT.—Members of the Northumberland and Durham Chemists Golf Association held a competition for the Ayrton cup on the Tyneside course, Ryton-on-Tyne, on September 23. Play was against bogey, and the result was a win for Mr. Cosans, North Shields, who was four up; Mr. Simpson, Alnwick, was second (one down); Mr. Walker, Wallsend, and Mr. Potts, West Hartlepool, were third (both three down); Mr. Duncan, representative of Ayrton, Saunders & Co., Ltd., presented the cup to Mr. Cosans.

MEDICINE STAMP ACTS.—At Stratford (Essex) Police Court, on September 30, James Harding, whose address was given as "c/o Health Crusaders' Association, 2 Lisle Street, Piccadilly," was summoned for vending medicine without a licence and for selling a bottle of dutiable medicine unstamped. It was stated for the Board of Customs and Excise that the defendant was a travelling herbalist with a motor-vehicle. Evidence of purchase having been given, the defendant said he only recommended the contents of the bottle. He was not permitted to have collections in market places. He was fined £5 and 20s. on the respective summonses.

Irish Notes

Economy Bill in Northern Ireland

A memorandum issued by the Government of Northern Ireland explanatory of the measures proposed to be taken under the Economy Bill devotes a section to Health Insurance and the remuneration to be paid to chemists and doctors. Since the introduction of the medical benefit scheme on October 1, 1930, the rate of remuneration of insurance doctors (other than certain dispensary medical officers, who were remunerated by a capitation fee of 7s. 6d.) has been 9s. a year for each insured person included in a doctor's list. It is proposed that the rates of 9s. and 7s. 6d. should be made subject to a deduction of 1s. as from October 1, 1931. It is also proposed that a corresponding reduction should be made from the sum set aside for the cost of drugs. The sums realised by these deductions will be applied towards meeting expenses of central administration of the National Health Insurance Acts, which are at present met out of moneys provided by Parliament. The amounts which will be realised by these deductions are estimated as follows:—Treatment capitation fees, £8,750 in the present financial year and £17,500 in a full year; drugs, £1,500 in the present financial year and £3,000 in a full year. The chemists and doctors have agreed to accept the cut. Mr. Pollock, Minister of Finance, moved the second reading of the Economy Bill on September 24.

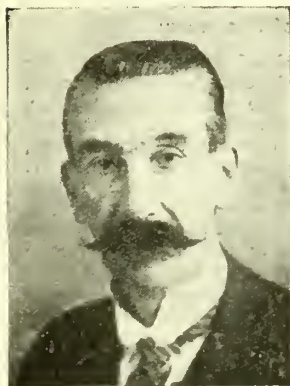
Brevities

According to a report of Mr. Dulanty, Free State Trade Commissioner in London, British chemicals and drugs showed increased exports to the Free State in the first half of 1931, compared with the corresponding period in 1930.

The Belfast analyst (Mr. J. H. Totton), reporting to the Corporation for the past quarter, says that thirty-three samples of compounded medicines were analysed during the period. In only two cases were the samples not in accordance with the prescriptions.

The "Belfast Gazette," of September 18, notifies that at the expiration of three months, the names of Anderson's Pharmacy, Ltd., and the Central Pharmacy (Derry), Ltd., will, unless cause is shown to the contrary, be struck off the Register, and the companies will be dissolved.

Mr. J. T. Dwyer, M.P.S.I., The Pembroke Pharmacy, Ballsbridge, Dublin, who is one of the new candidates seeking election to the Council of the Pharmaceutical Society, served his apprenticeship with Mr. William Corrigan, Ph.C., Celbridge, co. Kildare. After gaining further experience in Dublin and Monaghan Mr. Dwyer qualified in 1908, while on the staff of the late Mr. A. H. Oliphant, Drumcondra, Dublin. He was afterwards with Hayes, Conyngham & Robinson, Ltd., as manager of their branch at St. George's Street, Dun Laoghaire, co. Dublin. In 1910 Mr. Dwyer commenced business on his own account at Ballsbridge. In his election address Mr. Dwyer points out that for several years he has been on the Committee, and for the last two years president, of the Dublin and Provincial Drug Association, consequently he is particularly well informed on matters needing attention. He is opposed to reciprocity.



MR. J. T. DWYER

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Coming Events

This section is reserved for advance notices of meetings or other events. These should be received by Wednesday of the week before the meetings, etc., occur.

Wednesday, October 7

Pharmaceutical Society of Great Britain, 17 Bloomsbury Square, London, W.C.1, at 3 p.m. Opening of School session. Address by Professor G. E. Gask, C.M.G.

Birkenhead and Wirral Pharmacists' Association, Woodside Hotel, Birkenhead, at 8.15 p.m. "Bacterial Materia Medica," by Mr. G. Boyes, B.Sc.

Thursday, October 8

National Association of Women Pharmacists, Suffolk Street Galleries, Suffolk Street, London, S.W.1, at 7.45 p.m. Whist drive in aid of the Benevolent Fund of the Pharmaceutical Society. Tickets, 5s. each, from the secretary, Miss Hodgkinson, 12 Langside Crescent, Southgate, N.14, or from any member of committee.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.—A special course of lectures upon "Some Applications of Biochemistry to Modern Pharmaceutical Problems" will be given by Mr. Frank Wokes, B.Sc., and Mr. F. J. Dyer, B.Sc., in the lecture theatre, 17 Bloomsbury Square, W.C.1 on Thursday, October 22, and succeeding Thursdays, at 5.30 p.m. Admission to the first lecture without ticket; admission to subsequent lectures by ticket only (gratis to members and student-associates of the Society).

Topical Reflections

By Xrayser

Progress in Pharmacy

is clearly indicated by your quarterly record of the progress of pharmacy and allied sciences, last week's instalment of which I find as full of interest as ever. Not only so, but I have gleaned from those invaluable pages quite a number of ideas which should prove of profitable application. I would like to suggest that chemists' associations which devote evenings to practical matters, such as dispensing problems, might with advantage have an occasional shop talk based on the very up-to-date information conveyed in your scientific and technical abstracts which have appeared during recent months. One or more members of an association should assume the task of preparing series of notes embodying the gist of such abstracts as appear to have had a practical application, elaborate the various points from their own experience where possible, and so provide matter for interesting and useful discussions. What I notice in particular as an outcome of careful study of records of recent researches is that one's knowledge of the properties of substances becomes intensified, so rendering such knowledge of ever-increasing value in professional and business life. It is their peculiar knowledge of the properties of substances which makes well-trained pharmacists a class apart in the community, with exceptional ability to render service; and it behoves us to do our utmost to maintain our reputation in that respect. Thanks to the *C. & D.*, we are enabled to do this with a minimum of effort.

Faraday's Work

provides a subject upon which one could dwell to an unlimited extent, and your centenary retrospect (*C. & D.*, September 26, p. 398) has reminded me of the thrills with which I was affected by perusal of records of that work during the early days of my apprenticeship. From those records I got many tips for the utilisation of the most simple means of constructing apparatus for chemical and electrical experiments, and I can well remember how useful I found

the quickly acquired habit of extemporising appliances from odds and ends in the pharmacy, at a time when scarcity of pocket money prevented one from purchasing the ready-made and perfectly finished products of the maker of scientific apparatus. An added advantage was the fact that one learned to think more of the appliances as tools for aid in the performance of particular work, and less of them as articles which would automatically enable one to attain certain results. Dependence upon apparatus may tend to discourage originality, as evidenced by the hosts of slavish users of burettes and balances, who style themselves chemists, but are simply more or less skilful jugglers with the apparatus they employ. A course of Faraday should prove extremely helpful to such people, and I particularly commend a study of his methods to pharmaceutical students.

Is a National Formulary,

such as is now in practically general use for National Health Insurance dispensing purposes, of real advantage to the community? Your reference to the views expressed on the subject by the chief medical officer of the Ministry of Health (*C. & D.*, September 26, p. 397) have led me to devote some consideration to this matter, and I must confess to being dubious on the point. True, the regular use of such a formulary saves the time of medical practitioners by enabling them to order medicines by name only; but the very facility with which prescriptions may thus be dashed off tends, I fear, to the ordering of mixtures when they are not really required by the patient. It may seem economical to have a collection of formulas for inexpensive mixtures, in preference to encouraging the practitioner to write prescriptions in full for combinations which may prove more expensive; but greater economy still must result from a system under which no medicine shall be ordered unless it is actually required. Incidentally, the existence of stock formulas may lead to the use by dispensers of stock preparations prepared by wholesale druggists.

Westminster Wisdom

Notes on Parliamentary Matters

CONSUMERS' COUNCIL BILL

Mr. Morley asked the Prime Minister on September 23 if he is now prepared to give facilities for the passage into law of the Consumers' Council Bill.

Mr. Baldwin: The answer is in the negative.

OPIUM

The Secretary of State for India (Sir S. Hoare) supplied Major Pole on September 28 with the following figures, showing the amount of opium exported from India during the past five years and the gross revenue (before deduction of charges, including the cost price of opium) derived from the export of opium in the financial years from 1926:—

1930-31	...	...	9,558,480 oz.	...	*
1929-30	...	...	13,392,800 oz.	...	£1,733,971
1928-29	...	...	14,951,975 oz.	...	£1,928,093
1927-28	...	...	18,259,840 oz.	...	£2,369,950
1926-27	...	...	26,254,592 oz.	...	£2,636,139

* Figures for 1930-31 are not yet available.

NATIONAL ECONOMY

In the course of the debate on the National Economy Bill in Committee on September 25, the Minister of Health (Mr. Chamberlain) made the following statement:—A slight alteration has been made in the proposals that are embodied in the White Paper. The Committee will recollect that an announcement was made by the Prime Minister that certain alterations were going to be made in the cuts originally proposed for the services, for the police, and for the teachers, and there was to be a maximum of 10 per cent. instead of the varying rates that had been previously proposed. The cut from 9s. to 8s. from the doctors, of course, represents a larger percentage—it represents 11 per cent., and it seems to me to be unfair to them and inconsistent with the general scheme of the Government that, when an alteration has been made, the doctors and chemists alone should be left out of the scope of it and, accordingly, I wrote to the Insurance Committee of the British Medical Association and also the Pharmacists Union, and said we proposed to substitute for the original proposals of reductions a simple 10 per cent. reduction in both cases. That brings it into line. It means that there will be a rather smaller sum available for saving, a sum of about £90,000 in a full year, but that, I hope, we shall be able to make good by savings in other directions.

Business Changes

L. LEICHTNER (LONDON), LTD., removed on October 1 from Pollen Street, W.1, to 32 Acre Lane, Brixton, London, S.W.2.

MISS MARJORY G. LANE, chemist and druggist, has purchased the business of Draycott's (Bilston), Ltd., 104 Clifton Street, Hirst Hill, Bilston.

HENRY TETLOW CO., 84 Leadenhall Street, London, E.C.3, are removing on October 3 to 8-9 Ludgate Square, Ludgate Hill, E.C.4. Telephone: Central 1649.

MR. ROBERT KELLS, Ph.C., 90 Albertbridge Road, Belfast, has disposed of his pharmacy to Mr. Alfred Holmes. Mr. Kells will continue his dental practice at 3 Castlereagh Street, Belfast.

As from October 1, the business carried on by Mr. C. C. Pribik, Ph.C., at 21 Formosa Street, London, W.9; and 55 Bounces Road, N.9, and the business of Bird & Storey at 42 Eastcastle Street, W.1, and 144 Fortress Road, N.W.5, will be merged into Bird & Storey, Ltd.

College Notes

Bristol School of Pharmacy

The opening of the School of Pharmacy at the Merchant Venturers' Technical College, Bristol, took place on September 24 under the chairmanship of Mr. C. Hiatt Baker, Master of the Merchant Venturers' Society. The chairman, after opening the proceedings, called upon the head of the department, Mr. D. J. Williams, B.Sc., to read his annual report. This having been done, Mr. A. R. Melhuish (president of the Pharmaceutical Society) presented prizes to the following successful students:—

Ferris Gold Medal, Robert W. Gibson, 1929-30.

Ferris Gold Medal, Robert S. G. Mawson, 1930-31.

Pharmaceutical Society's Codex Prize, Frank W. Long.

Silver Medal, Ernest L. Hart.

Bronze Medal, Keith Hodder.

Mr. Melhuish, addressing the students present, suggested that if the Society's aim in regard to education was a tiny fraction, a mere shadow of a trifle, high for the needs of to-day, it was nothing more than what was advisable in view of the fact that we knew not what developments in science to-morrow might, and most likely would, bring forth. He recommended them not to listen to some who would say that nowadays too much attention was paid to sport, but to keep themselves fit and healthy by taking a full part in it. A vote of thanks to Mr. Melhuish was proposed by Professor Andrew Robertson, seconded by Mr. Taylor, and carried by acclamation, as was also a vote of thanks to the chairman, proposed by Mr. Deacon, and seconded by Mr. Linstead.

Festivities

Leeds Chemists' Opening Function

A WHIST DRIVE and supper-dance was held at the Victory Hotel, Leeds, on September 23, the opening evening of the local chemists' winter season. The affair was jointly organised by the Leeds Branches of the Pharmaceutical Society and the Retail Pharmacists' Union, and was attended by 260 people, including stand-holders at the Leeds Chemists' Exhibition. Mr. and Mrs. W. P. Want were the chief guests, and others present included Mr. Thomas Hardy (member of the Pharmaceutical Society's Council), Mrs. Hardy, Mr. Hugo Wolff and Mr. Herbert Sutcliffe (the famous cricketer). The principals from the "Follow a Star" musical comedy joined the gathering after the evening's performance at the Grand Theatre. Mr. John Lancaster (chairman of the Leeds Branch of the Society) and Mrs. Lancaster received the visitors. The prizes for whist and spot dances were presented to the winners by Mrs. Want, to whom thanks were voiced by Mr. R. Swaites (chairman of the Leeds Branch of the R.P.U.). After supper thanks were expressed to the ladies' social committee and the organising committee by Mr. Hardy, and responded to by Mr. G. C. Crummack. Donors of prizes were Potter & Moore, Ltd., Zenobia, Ltd., T. F. Bristow & Co., Ltd., Parfumerie de Fleury, Goodall, Backhouse & Co., Macleans, Ltd., Prichard & Constance, Ltd., Hirst, Brooke & Hirst, Ltd., United Drug Co., Ltd., and Briggs & Balmforth. In charge of the organisation were Messrs. H. Haw and A. W. Lupton (M.C.s for dancing), J. F. Simon and F. Kemp (M.C.s for whist), P. Dobson (prizes), R. Swaites (tickets), H. Gilleghan, T. Shooter and G. C. Crummack.

MEDICAL MANUALS.—We have received from Baillière, Tindall & Cox, 8 Henrietta Street, Covent Garden, London, W.C.2, copies of "Aids to Medical Diagnosis," by A. Whiting, M.D., and "Aids to Medical Treatment," by J. T. Lewis, M.D., and T. H. Crozier, M.D. Each volume is published at 3s. 6d., comprising in the former case about 180 pages and in the latter about 250 pages.

Pharmaceutical Society of Northern Ireland

Council Meeting

THE monthly meeting of the Council of the Pharmaceutical Society of Northern Ireland was held on September 18, Mr. S. S. Badger (president) in the chair. There were present also Messrs. James Dundee (vice-president), Sir Thomas McMullan, Fred Storey, H. Todd, R. I. Edwards, Samuel Gibson, W. S. Taylor, J. E. Connor, W. J. Hardy, H. McRoberts, J. F. Grimes, Professor Small and Dr. Acheson. Mr. D. L. Kirkpatrick (secretary) was in attendance.

BRITISH PHARMACEUTICAL CONFERENCE

The PRESIDENT, reporting on the meeting of the British Pharmaceutical Conference at Manchester, said the delegates had been well received.

Mr. HARDY endorsed the president's remarks.

Mr. CONNOR said he felt that the presence of the delegates at the Conference was appreciated.

Mr. STOREY said they owed Manchester and Salford hearty thanks for the welcome they received. The Conference did a great amount of good.

APPOINTMENT OF SCRUTINEERS

Mr. TODD moved, and Mr. CONNOR seconded, that Mr. Hardy and Mr. Storey be scrutineers at the annual meeting in October; and this was agreed to.

NOMINATIONS

The Ministry of Home Affairs wrote nominating Sir Thomas McMullan as representative of the wholesale trade on the Council for the next three years.

Queen's University of Belfast wrote renominating Professor Small and Dr. Fielden as members for a further period of three years.

The Medical Committee of Northern Ireland wrote renominating Dr. S. E. A. Acheson as their representative.

DRUGGISTS' REPRESENTATIVES

A letter was read from the Ministry of Home Affairs drawing the attention of the Council to Article 3, Part III, of the First Schedule to the Pharmacy and Poisons Act (N.I.), 1925, which provides for a periodical revision of the number of druggists' representatives on the Council, and stating that the Minister had come to the conclusion that the time had now come for further reducing the number of druggists' representatives. It would be seen that the number of druggists had been reduced by approximately 50 per cent., and that this figure warranted an immediate reduction of one in the number of druggists' representatives.

In a further letter the Ministry stated that the Minister had received a memorial from fourteen members of the Council requesting him to reconsider his decision and postpone the reduction of druggists' representatives for the present, as it would necessitate the removal of Mr. John F. Grimes, Pomeroy, the only representative from co. Tyrone, and the only representative of country druggists on the Council. He was to request the Council to consider this representation. Should the Council so desire, it was open to them to pass a resolution supporting the memorial. If such a resolution was passed, the Minister would consider a proposal to make the reduction next year instead of this year. This would enable the Society to continue to have amongst its members a representative for co. Tyrone and also for the country druggists.

The PRESIDENT said he was sure they would be glad to have Mr. Grimes with them again for another three years.

Mr. TAYLOR moved, and Mr. CONNOR seconded, that they request the Ministry to grant the prayer of the memorial.

Mr. HARDY said he would have objected, not on personal grounds, to Mr. Grimes, for whom he had the

highest esteem, but he had thought there was another way out. He would not, however, press the matter, as he had such a high regard for Mr. Grimes.

The PRESIDENT said it would only affect them for a year, as next year one of the Belfast druggists' representatives would go out.

The resolution was passed, and Mr. GRIMES, returning thanks, said his one idea was to work for the uplift of the whole trade.

REPORT OF THE EDUCATION COMMITTEE

The report of the Education Committee contained, *inter alia*, the following:—

The reports from the Board of Examiners were considered, and it was resolved that copy of same be sent to the principal of the Municipal College of Technology, Belfast, together with copies of the examination papers set for the June examinations, asking for an expression of his opinion on the results, and suggesting that if he thinks it advisable the Committee would be pleased to discuss the matter with him and the principal members of the teaching staff.

It was resolved that the examination for the Certificate of Assistant to a Pharmaceutical Chemist be held in conjunction with the examinations under Schedule 2 of the Pharmacy and Poisons Act (Northern Ireland), 1925, and that examiners be appointed to conduct same.

It was resolved that candidates sitting for the Licence examination under Schedule 2, Part IV (2), who pass in pharmacy, practical pharmacy and pharmacognosy (theoretical) be granted the Certificate of Assistant to a Pharmaceutical Chemist on payment of a fee of £2 2s.

Mr. CONNOR moved, and Mr. TODD seconded, the adoption of the report.

Professor SMALL said the holding of a separate examination for assistants was a backward step, and should not be done. He did not know where they got authority under the Act to give an assistant's certificate to a man who had passed part of his final. If they instituted the Assistants' examination they would, as it were, side-track people.

Mr. DUNDEE said the tendency might be for some men to halt when they took the Assistants' examination.

Mr. STOREY said they had no option but to set up the examination.

Mr. HARDY doubted if they would get a single assistant by setting up a separate examination.

Mr. TODD asked if they would take the Assistants' certificate from a boy who failed in chemistry in his final?

Several members replied in the negative.

Dr. ACHESON moved an amendment that the references to the splitting of the Assistants' examination be referred back to the Education Committee. This was seconded by Mr. DUNDEE and agreed to, and the report, as amended, was adopted.

Dr. ACHESON said there would possibly be no candidates for the examination.

Mr. HARDY said they need not appoint examiners till they saw if they had any candidates.

Mr. DUNDEE suggested holding the Assistants' examination later, so that if a man failed in his final he could go in for the Assistants' examination.

It was agreed to take legal opinion as to the powers conferred in the Act on the question generally.

Dr. ACHESON said candidates who failed in the final would have a week in which to give notice of their intention to go up for the Assistants' examination.

The appointment of the examiners was left to the president.

FINANCIAL STATEMENT

Mr. H. TODD (treasurer) submitted the financial statement, which showed a substantial balance of income over expenditure.

The PRESIDENT said the report was very satisfactory.

New Companies and Company News

P.C. means Private Company and R.O. Registered Office.

E. E. FLETCHER, LTD. (P.C.).—Capital £300. Objects: To carry on the business of bullion dealers, refiners, assayers, metallurgists, chemists, engineers, etc.

F. O. C., LTD. (P.C.).—Capital £100. Objects: To carry on the business of research chemists, mechanical, consulting and experimental engineers, etc. R.O.: Baldwin Gardens, W.C.

BINGHAM'S PHARMACY, LTD. (P.C.).—Capital £100. Objects: To carry on the business of chemists, druggists, opticians and photographic dealers, etc. R.O.: 259 Battersea Park Road, S.W.11.

COWAN'S GREASE SOLVENT PRODUCTS, LTD. (P.C.).—Capital £500. Objects: To carry on the business of manufacturers and retailers of chemical products, household requisites and sundries, toilet requisites, cosmetics, etc. R.O.: 23 St. Petersgate, Stockport.

G. ROBERTS, S.E., LTD. (P.C.).—Capital £250. Objects: To carry on the business of chemists and druggists, buyers and sellers of soap and toilet requisites and articles, instruments or appliances used by photographers, opticians or surgeons, etc. R.O.: 11 East Street, Walworth, S.E.

BIRD & STOREY, LTD. (P.C.).—Capital £1,000. Objects: To carry on the business of manufacturers of and dealers in chemicals, gases, drugs, medicines, plaster of Paris, gypsum, plasters, disinfectants, fertilisers, salts, acids, brushes, toilette requisites, etc. R.O.: 156-157 Aldersgate Street, E.C.1.

BIOZONE PRODUCTS, LTD. (P.C.).—Capital £1,000. Objects: To adopt an agreement with A. E. Mullis, liquidator of Biozone, Ltd., and to carry on the business of manufacturers of chemical and other products, etc. Solicitors: Sweetland, Greenhill & Stinson, 4 Cullum Street, E.C.3. R.O.: 27 Creechurch Lane, E.C.3.

BODENS (LINCOLN), LTD. (P.C.).—Capital £12,000. Objects: To carry on the business of manufacturers and wholesale druggists and perfumers, manufacturing and wholesale confectioners, manufacturers and factors of biscuits and electrical equipment and appliances, seedsmen, etc. Solicitors: Andrew, Race, Midgley & Hill, Lincoln.

FRED PARTON & Co., LTD. (P.C.).—Capital £1,200. Objects: To adopt an agreement with C. F. Parton, and to carry on the business of hairdressers' sundriesmen, perfumers, dealers in all kinds of fancy goods, soaps, oils, chemicals, medicines, etc. Solicitors: Reginald Tansley & Oakley, 109 Colmore Row, Birmingham. R.O.: 23 Needle Alley, Birmingham.

EUCRYL, LTD.—Interim dividend of 5 per cent. on deferred ordinary shares, payable October 1.

SOUTHALL BROS. & BARCLAY, LTD.—The directors have declared an interim dividend on ordinary shares of 5 per cent., free of income tax, payable on October 1.

BRITISH OXYGEN Co., LTD.—In view of the conditions now prevailing, the directors have decided not to pay an interim dividend on the ordinary shares. In December last an interim dividend of 3 per cent. was declared.

THE B.M. CHEMICAL PRODUCTS Co., LTD.—At a meeting held in London on September 24 it was resolved that this company be wound up voluntarily. Mr. H. C. Walsh, 49 Eastcheap, London, E.C.3, was appointed liquidator.

SAVORY & MOORE, LIMITED.—Prospectus in connection with the issue of £185,000 7½ per cent. first mortgage debenture stock at the price of 99½ per cent.

(part of a total authorised issue of £300,000), is now available from Barclays Bank and branches. The lists will open on Saturday next.

PHOSFERINE PRODUCTS, LTD.—Accounts to June 30 show net loss of £2,257 carried forward. Debit balance of profit and loss at June 30, 1930, of £14,377 has been carried to development account. [CORRECTION.—In our issue of September 26 the name of Phosferine (Ashton & Parsons), Ltd., was inserted in error in connection with the accounts of the above company.]

Bankruptcy Reports

Re George Herbert Sergeant, company director, 1 Belsize Grove Mansions, Hampstead, N.W., and lately carrying on business at Rosslyn House, 94-98 Regent Street, W. This debtor attended before Mr. Registrar Mellor at the London Bankruptcy Court for public examination upon accounts showing liabilities £1,636 against assets valued at £450. Replying to the Official Receiver, he stated that in October 1928 he and two other persons entered into an equal partnership arrangement and traded as "W. Edmonds & Co.," scientific vermin exterminators, at 94-98 Regent Street, W. (offices), and 9 Arthur Mews, Paddington. He (debtor) put £1,500 into the business, which acquired numerous contracts; additional capital was required with the result that in March 1929 W. Edmonds & Co., Ltd., was registered with a nominal capital of £7,000, and acquired the firm's business as a going concern. W. Edmonds & Co. (firm) were allotted 998 shares of £1 each, and he was appointed a director of the company. In January 1930, owing to disagreement as to the company's management, he sold his shareholding for £500 and resigned his appointment. Shortly afterwards he promoted, and on June 19, 1930, registered Anglo-German Pharmaceutical Products Corporation, Ltd., with a nominal capital of £500 divided into shares of £1 each. He subscribed for 498 shares and acted as general manager and secretary of the company until December 1930, when the debenture holder appointed a receiver; and the company was compulsorily wound up in January 1931. From March 1929 until January 1930 he was a director of W. Edmonds & Co. (Overseas), Ltd., which did not effect any business, and since December 1930 he had earned casual commissions only. These bankruptcy proceedings were in respect of a judgment obtained against him. The debtor attributed his insolvency to the failure of Anglo-German Pharmaceutical Products, Ltd. The examination was concluded.

Gazette

Partnerships Dissolved

BEALL, SAMUEL SMART, and **BEALL, GEORGE E.**, 25 Sidney Street, Cambridge, chemists, etc., under the style of Beall & Son.

DAVIES, T. A. M., and **BLACKWELL, F. L.**, 52 Bridge Street, Pinner, Middlesex, chemists, druggists and opticians, under the style of Blackwell & Co.

JACKSON, J. A., and **PLATTS, J. A.**, 203 High Street, Scunthorpe, carrying on business as opticians, wireless and photographic supplies salesmen, under the style of J. A. Platts.

Bankruptcy Acts

RECEIVING ORDERS AND ADJUDICATIONS

HETHERINGTON, T. C., 47 Spring Grove Road, Hounslow, Middlesex, chemist.

LLEWELLYN, W., 44 Dunraven Place, and 68 Nolton Street, Bridgend, Glamorgan, pharmaceutical chemist.

Stock Exchange Prices

£1 Shares unless otherwise stated	Dec. 30, 1930	Aug. 31, 1931	Sept. 29, 1931
Allen & Hanburys 7% Prefd. Ord.	21 6	21 3	21 0
Amalg. Dental Co., 8% Prefd. Ord.	19 0	19 6	17 6
" " Deferred 5s. ..	3 3	3 0	2 9
Apollinaris and Johannis, Ord. £1 ..	6 3	3 9	3 6
Ayrton, Saunders & Co., 7½% Pref.	14 6	13 6	11 3
Beechams Pills, Deferred 1s. shares	2 6	1 6	1 9
Benger's Food, Ord. ..	30 6	28 0	27 6
Boake (A.), Roberts & Co., 5% Pref.	16 3	16 0	15 6
Boots Pure Drug Ord. ..	111 3	115 9	111 3
Boots Pure Drug, 7% "A" Prefd. Ord.	23 6	24 0	23 9
Boots Cash Chemists (S.), 6% "A" Pref.	21 6	22 0	21 9
Borax Consol., Dfd. Ord. ..	10 0	8 9	7 6
Bovril, 6% Pref. ..	23 0	23 0	21 6
" " Ord. ..	25 0	23 6	22 6
" " Dfd. ..	37 3	32 0	34 0
British Cyanides, Ord., 2s. shares ..	1 9	0 8½	0 7½
British Drug Houses, The, Ord. ..	17 0	14 3	13 9
British Oil and Cake Mills, Ord. ..	27 5	27 0	24 0
British Oxygen, Ord. ..	24 3	13 0	13 6
British Photo. Indus., 6% Cum. Pref.	15 6	12 6	8 9
Bush (W. J.) & Co., 5% Pref. £5 ..	63 0	60 0	57 6
Cadbury Bros., 6% Pref. ..	23 3	24 3	24 0
Callard, Stewart & Watt, Ord. ..	27 6	21 3	20 0
Crosfield (Joseph) & Sons, 6½% Pref.	21 6	21 9	20 6
Drug Incorporated (no par value) ..	\$62	\$76	\$74
Dubarry Perfumery, Ord. 1s. ..	6 0	3 9	3 9
" " 7½% Pref. ..	20 0	19 6	17 6
Eastman Kodak Com. (no nom. value)	\$149	\$147	\$135
Evans Sons Lescher & Webb, Ord.			
6s. 8d. shares	3 6	2 3	2 3
" " 6% cum. part. Pref.	4 9	2 9	2 9
Field (J. C. & J.), Ord. ..	11 3	12 6	12 6
Galloway (P. H.), Ord. 2s. ..	2 9	2 6	2 3
" " 7½% Cum. Pref. ..	21 0	19 6	19 9
Gossage (William), 6½% Pref. ..	21 3	21 0	20 0
Grout & Co., Ord. ..	15 0	11 6	12 0
Heppells, 7% cum. part. Pref. ..	3 0	—	—
Hodders, Ord. 1s. ..	0 6	0 1½	0 1½
Idris & Co., "A" Ord. ..	20 9	20 0	23 0
Ilford, Ltd., Ord. ..	46 3	25 0	20 0
" " 6% Pref. ..	20 6	20 6	20 0
Imperial Chemical, 7% Pref. ..	21 9	17 9	18 6
" " Ord. ..	18 0	12 0	14 6
" " Dfd. 10s. ..	5 0	3 0	3 7½
Intern. Sponge Importers 6% Pref.	10 0	8 9	7 6
Kent (G. B.) & Sons, 5½% Pref. ..	10 6	5 7½	5 7½
Knight (John), 25% Prefd. Ord. ..	67 6	65 0	65 0
Laporte (B.) & Co., Ltd., Ord. ..	19 0	18 3	18 0
Lever Bros., Ltd., 7% Pref. ..	22 9	22 9	21 3
" " 8% Pref. ..	22 9	21 6	20 0
" " 20% Prefd. Ord. £1	12 0	45 0	40 0
Lewis & Burrows, Ord. ..	28 9	25 6	25 0
" " 6% Pref. ..	17 6	16 6	16 0
Liebig's Ext. of Meat, Ord. £5 ..	£14½	£8½	£9
Mellin's Food, 6% Pref. ..	2 6	2 0	2 0
Nathan (Joseph) & Co., 7% Pref. ..	17 0	14 0	13 9
" " 8% Prefd. Ord.	8 0	6 0	5 0
National Drug and Chemical Co. of			
Canada, 6½% Pref. ..	2 0	2 3	2 3
New Transvaal Chemical Co., 6% Pref.	20 0	20 6	20 0
" " 8% Pref. ..	22 9	23 0	23 0
Phosferine (Ashton) & Parsons 8%			
cum. part. Ord. ..	11 3	8 6	8 3
Salt Union, Ord. ..	31 3	22 0	25 0
" " Pref. ..	32 6	27 6	25 0
Sangers, Ord. 5s. ..	8 3	7 9	7 4½
"Sanitas," The, Co., 9% Pref. ..	25 0	22 6	21 3
Sanitas Trust, 10% part. Pref. ..	22 6	21 9	20 0
Schwepes, Ltd., Ord. ..	31 6	23 0	22 6
" " Dfd. ..	32 6	19 6	20 0
Smith (Stephen) & Co. Ord. 5s. ..	6 0	5 9	5 6
Solidol Chem. Co., Ord. 1s. ..	0 2	0 1½	0 1½
Southall Bros. & Barclay, Ord. ..	103 6	106 3	107 6
" " 5% Pref. ..	19 3	20 0	19 6
Spratt's Patent, Ord. ..	48 0	48 9	47 6
Stevenson & Howell, 6½% Cum. Pref.	17 6	16 9	16 9
Taylor's Cash Chemists (Lon.) 1s. Dfd.	1 6	0 4½	0 5½
Taylor's (Cash Chemists) Trust, 7½%			
Cum. Pref. Ord. ..	18 9	10 6	9 0
" " 1s. Dfd. ..	1 10½	0 10½	0 10½
United Glass Bottle Man., 6% Mt.			
Deb. Stk., £100 ..	£103	£102	£100
Veno Drug Co., 8% Pref. ..	15 0	8 9	9 0
Virol, Ltd., Ord. ..	65 0	27 6	27 6
" " 7% Pref. ..	21 3	21 9	20 6
White (A. J.), Ltd., Ord. 10s. ..	12 6	11 9	11 9
White (Timothy), 7½% Prefd. Ord.	21 0	16 9	13 9
" " 1s. Dfd. Ord. ..	1 10½	1 1½	1 3
Wright Layman & Umney, 6% Pref.	20 7½	20 0	20 0

Insurance Act Dispensing

Record of matters concerning Chemists' interests in the National Health Insurance Acts.

Local Reports

ENGLAND AND WALES

Middlesex.—A meeting of the Middlesex Insurance Committee was held recently. The Pharmaceutical Services Subcommittee recommended that in the case of a chemist whose dispensing of a prescription showed a deficiency of 100 per cent. in liquor hydrargyri perchloridi and 28 per cent. in potassii iodidum he be severely censured and the sum of £5 be deducted from the moneys payable to him. The recommendation was adopted. In a second case, in which the Committee's analyst reported a deficiency of 14 per cent. of magnesi sulphas in a prescription, the Subcommittee recommended that the chemist concerned be censured and the sum of £1 be deducted from the moneys payable to him. It was moved and seconded that the fine be cancelled. The amendment, however, was lost.—At a meeting of the Pharmaceutical Committee, held on September 16, Mr. G. F. Weiss in the chair, Mr. George Duncan, was co-opted to fill the vacancy caused by the resignation of Mr. William Duncan. Information was received from the Retail Pharmacists' Union respecting the deduction to be made from the remuneration payable to panel chemists during the fifteen months beginning October 1. The secretary reported that doctors and chemists on the Middlesex panel had now been formally notified that, after September 30, the old Middlesex Formulary would no longer be recognised as one from which medicines may be ordered by name only. Certain provisional additions had been made to the National Insurance Formulary to meet the requirements of Middlesex doctors, but those would cease to be recognised after publication of the next edition of the N.I.F., unless formally incorporated. The supervisor's report included the following:—

	No. of prescriptions	Ingredient cost £ s. d.	Dispensing fees £ s. d.
June 1931 ..	157,242	2,313 5 10 (av. 3.5d.)	2,859 17 5 (av. 4.3d.)
July 1931 ..	151,800	2,278 11 4 (av. 3.6d.)	2,754 8 1 (av. 4.3d.)

Attention was directed to irregularities in connection with a number of prescriptions, including one ordering 1 c.c. of cold vaccine, where the chemist had supplied three 1-c.c. tubes. In another case, where Stannoxyl tablets were ordered without any specification of quantity, the chemist had supplied the 3s. size. "Kaolin" had been ordered by doctors who intended Kaylene to be supplied, and Fehling's solution was now being prescribed as a lotion.—After the conclusion of the formal business the chairman reported that he had presented to Mr. William Duncan, on behalf of the members and officers of the Committee, a chiming clock in mahogany case, bearing an inscription.

SCOTLAND

Panel Chemists and National Economy

In further communication with the Department of Health for Scotland a modification of the 7 per cent. deduction already agreed to has been intimated. The reductions announced in the cuts proposed for various classes of persons employed in the service of the Crown or otherwise, it will be seen, have the general effect of making the maximum cut 10 per cent., instead of varying amounts as originally contemplated. It has been deemed only fair that panel chemists should have the benefit of the new arrangement. Accordingly, with the concurrence of the Chancellor of the Exchequer, Sir Archibald Sinclair, M.P., Secretary of State for Scotland, has agreed that in the case of Scottish panel chemists, under the arrangement made for a deduction from their accounts, the percentage should now be 6.3 instead of 7, this arrangement to take effect from October 1.

The British Association

THE centenary meeting of the British Association for the Advancement of Science opened in London on September 23 and closed on September 30. Of the large number of papers presented in the various sections, those on vitamins, together with the addresses of the president of the Association (General the Rt. Hon. J. C. Smuts, F.R.S.) and the presidents of the chemistry and physiology sections, are the most interesting from a pharmaceutical point of view.

The Presidential Address

The president commenced by remarking that the hundred years of scientific progress on which the Association looks back has no parallel in history, and announced as the subject of his address "The Scientific World-Picture of To-Day." The following is an abstract of the principal passages in the address:—

Nineteenth-century science is, in fact, a system of purified, glorified common sense. Its deterministic theory certainly gave a shock to the common man's instinctive belief in free will; in most other respects it conformed to the outlook of common sense. With the coming of the twentieth century fundamental changes began to set in. The new point of departure was reached when physical science ceased to confine its attention to the things that are observed. Away in the last century, Clerk Maxwell, following up Faraday's theories and experiments, had formulated his celebrated equations of the electro-magnetic field, which applied to light no less than to electro-magnetism, and the exploration of this fruitful subject led Minkowski to the amazing discovery in 1908 that time and space were not separate things, but constituent elements in the deeper synthesis of space-time. Thus time is as much of the essence of things as space. . . . I pass on to an even more revolutionary recent advance of physics. I refer to the quantum theory, Max Planck's discovery at the end of the nineteenth century, according to which energy is granular, consisting of discrete grains or quanta. The world in space-time is a continuum; the quantum action is a negation of continuity. Thus arises the contradiction, not only of common sense, but apparently also of reason itself. The quantum appears to behave like a particle, but a particle out of space or time. As Sir Arthur Eddington graphically puts it: a quantum of light is large enough to fill the lens of a hundred-inch telescope, but it is also small enough to enter an atom.

Space-time finds its natural completion in organic evolution. For in organic evolution the time aspect of the world finds its most authentic expression. The world truly becomes process, where nothing ever remains the same or is a duplicate of anything else, but a growing, gathering, creative stream of unique events rolls for ever forward. But while we recognise this intimate connection between the conceptions of space-time and organic evolution, we should be careful not to identify the time of evolution with that of space-time. Biological time has direction, passes from the past to the future, and is therefore historical. It corresponds to the "before" and "after" of our conscious experience. Physical time as an aspect of space-time is neutral as regards direction. It is space-like, and may be plus or minus, but does not distinguish between past or future. When we ask what is the nature of life, we are curiously reminded of the behaviour of the quantum referred to. I do not for a moment wish to say that the quantum is the physical basis of life, but I do say that in the quantum the physical world offers an analogy to life which is at least suggestive. The quantum follows the all-or-nothing law and behaves as an indivisible whole; so does life. A part of a quantum is not something less than a quantum; it is nothing or sheer nonentity: the same holds true of life. The quantum is perhaps most easily symbolised as a wave

or combination of waves, which can only exist as a complete periodicity, and whose very concept negatives its existence as partial or truncated. In other words, it is a specific configuration and can only exist as such: the same holds true of life. Life is not an entity, physical or other. It is a type of organisation; it is a specific principle of central or self organisation. If that organisation is interfered with we are left, not with bits of life, but with death.

From matter, as now transformed by space-time and the quantum, we pass step by step through organic nature to conscious mind. Gone is the time when Descartes could divide the world into only two substances: extended substance or matter, and thinking substance or mind. There is a whole world of gradations between these two limits. On Descartes' false dichotomy the separate provinces of modern science and philosophy were demarcated. But it is as dead as the epicycles of Ptolemy. The free creativeness of mind is possible because, as we have seen, the world ultimately consists, not of material stuff, but of patterns, of organisation, the evolution of which involves no absolute creation of an alien world of material from nothing. While religion, art and science are still separate values, they may not always remain such. Indeed, one of the greatest tasks before the human race will be to link up science with ethical values, and thus to remove grave dangers threatening our future. Besides science we have other forms of this inner relation between the mind and the universe, such as poetry, music, art and religion. The human spirit is not a pathetic wandering phantom of the universe, but is at home, and meets with spiritual hospitality and response everywhere. Instead of the animistic, or the mechanistic, or the mathematical universe, we see the genetic, organic, holistic universe, in which the decline of the earlier physical patterns provides the opportunity for the emergence of the more advanced vital and rational patterns. In this holistic universe man is in very truth the offspring of the stars.

Chemistry Section

The address of the president of the Chemistry Section (Sir Harold Hartley, F.R.S.) was devoted to "Michael Faraday and the Theory of Electrolytic Conduction." Sir Harold Hartley traced the course of Faraday's work on electrolysis with the aid of several quotations from his note-books (now in the possession of the Royal Institution), jotted down in numbered paragraphs extending to 16,041. Sir Harold Hartley gives a striking picture of Faraday's methods:—

"It is easy to see why Faraday had to work alone with nobody to distract him. In the period of his great achievements, his experiments were rarely continuous, the intervals between them suggesting the subconscious working of his mind. He waited until the impulse came and his 'prescient wisdom' had planned the experiment and foreseen the result. As we read the pages of the note-books, discovery seems to follow discovery almost inevitably. Faraday always had a preconceived idea behind his experiments, and never were advances made with such economy of effort. Each new position was reached by a series of attacks delivered with amazing speed when everything was ripe for them. The eager intensity with which Faraday worked in the laboratory impressed all those who watched him—'His motions were wonderfully rapid; and if he had to cross the laboratory for anything, he did not walk at an ordinary step, he ran for it, and when he wanted anything he spoke quickly.' . . . 'The rare ingenuity of his mind was ably seconded by his manipulative skill, while the quickness of his perceptions was equalled by the calm rapidity of his movements.'"

September 25 was devoted to a discussion on "The Chemistry of the Vitamins and Related Substances," introduced by Sir Frederick Gowland Hopkins, P.R.S.

Carotene and its relation to vitamin A were dealt with by Professor P. Karrer, Dr. T. Moore and other investigators; the vitamin B complex and vitamin D were also discussed in several contributions. The isolation of vitamin B₁ by Professor B. C. P. Jansen and Dr. Donath by the following process, was announced:—

One hundred kilos of rice polishings is extracted by water; the dissolved vitamin is absorbed by 3 kilos of acid clay; from this it is eluted by baryta. This solution is acidified and successively treated by silver nitrate and baryta, by phosphotungstic acid and in alcoholic solution by an alcoholic solution of platinum chloride. After decomposing the platinum precipitate the solution in absolute alcohol is fractionately precipitated by acetone; after several fractionations we got 30 mg. of pure B₁ vitamin hydrochloride; 100 kilos of rice polishings contain about 1½ gm. of B₁ vitamin, while our procedure gives after several months' work only 30 mg., so I tried to improve the method. Phosphotungstic acid was substituted by the more specific silico-tungstic acid. The decomposed platinum salt may be further purified by gold chloride (Drummond). Seydell and van Veen remove many impurities by benzoylation

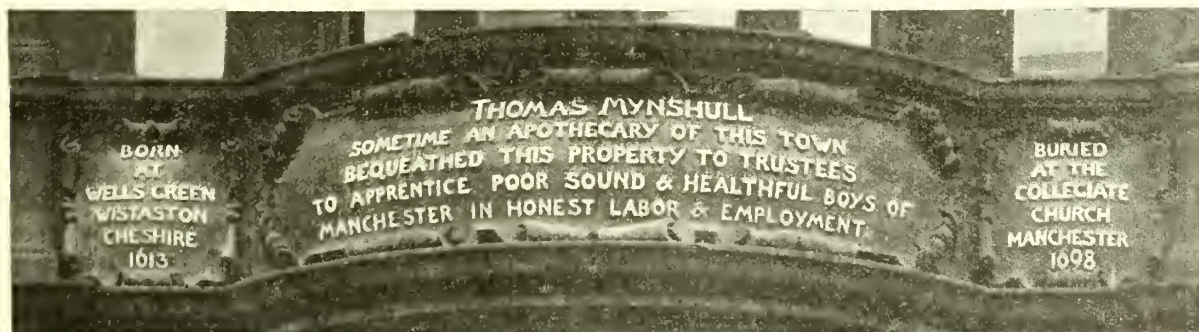
Physiology Section

The president of the Physiology Section (Dr. H. H. Dale) gave, as his address, an introduction to a discussion on the biological nature of the viruses. Dr. Dale said that the clear recognition of the existence of agents of infection, imperceptible with the highest powers of ordinary microscopic vision, and passing through filters fine enough to retain all visible bacteria, begins with Ivanovski's work in 1892 on the mosaic disease of the tobacco plant, brought to general notice and greatly developed by Beijerinck's work on the same infection some seven years later; and with Löffler and Frosch's demonstration, in the same period, that the infection of foot-and-mouth disease is similarly due to something microscopically invisible, and passing easily through ordinary bacteria-proof filters. What do we mean by a virus? We must, in consistency, apply it, on the one hand, to the filterable agents transmitting certain tumours, and, on the other hand, to the agents of transmissible lysis affecting bacteria, and now widely known and studied as bacteriophages. But the strict application of such a definition, based on negative characteristics, must obviously narrow its scope with the advance of technique.

Microscopic visibility is obviously a loose term. Rayleigh's familiar formula, in which the lower limit of resolution is equal to one-half the wave-length of the light employed, divided by the numerical aperture of the objective, only gives us the smallest dimensions of an object, of which, with the method of transmitted illumination habitually used in former years, a critical image can be formed. There can be no doubt that

the separate particles, of practically all the agents to which the term virus would be applied, fall below this limit of size. To put it in plain figures, their diameter is less than 0.2 micron. The crude, qualitative distinction between the filterable and non-filterable agents of infection has long since ceased to have any real meaning. There is no natural limit of filterability. A filter can be made to stop or to pass particles of any required size. It is now realised that the only proper use of a filter in this connection is to give a quantitative measure of the maximum size of the particles which pass it. Evidence from failure to pass must always be subject to correction for the effects of electrostatic attraction and fixation by adsorption on the fabric of the filter. A large amount of filtration evidence has, further, been vitiated by reliance on determinations of the average pore size of the filter.

The failure of a virus to propagate itself, except in the presence of living cells which it infects, may obviously again provide an unstable boundary, shifting with the advance of our knowledge and skill. We may regard it as not only possible, but even likely, that methods will be found for cultivating artificially, on lifeless media, some of those viruses, at least, which have the appearance of minute organisms. It would be playing with nomenclature to let inclusion in the virus group depend on continued failure in this direction. On the other hand, the dimensions assigned to the units of some viruses, representing them as equal in size to mere fractions of a protein molecule, might well make one hesitate to credit them with the power of active self-multiplication. Experience provides no analogy for the growth of such a substance by self-synthesis from the constituents of a lifeless medium; the energetics of such a process might present an awkward problem. Workers in the cytology of genetics, accustomed to picturing a complex of potentialities as somehow packed into the compass of a gene, may find less difficulty than does the bacteriologist in attributing sufficient organisation, for true self-reproduction, even to particles still far beyond the range of detection by the microscope. If, in spite of such considerations, we find ourselves forced to the conclusion that some viruses consists of units so minute, that we cannot believe them to be living organisms, Dr. Dale hopes we may avoid one common method of expressing the alternative conception, which refers to them as "enzymes." He knows of no evidence that any enzyme has the properties of a virus, or that any virus has those of an enzyme. Apart from their known function as the agents transmitting many of the best known among the acute infections, it is impossible, to anyone having even a slight knowledge of the recent developments which began with the work of Rous and Murphy, to doubt that in the advance of knowledge concerning the nature of the viruses in general lies the brightest hope of finding a clue to the dark secret of the malignant tumours.



A LINK WITH THOMAS MYNSHULL, ONE OF THE EARLIEST APOTHECARIES OF MANCHESTER. THE TABLET IS TO BE SEEN ON PREMISES IN CATEATON STREET; THIS BUILDING HAS TAKEN THE PLACE OF TWO HOUSES WHICH, IN 1689, THOMAS MYNSHULL OF CHORLTON HALL DIRECTED SHOULD PROVIDE THE MEANS FOR APPRENTICING THE POOR BOYS OF MANCHESTER. CITY IMPROVEMENTS MADE IT IMPERATIVE THAT THESE TWO DWELLINGS SHOULD GIVE PLACE TO A MORE MODERN BUILDING. THE NAME OF MYNSHULL IS ALSO COMMEMORATED IN MYNSHULL STREET OFF PORTLAND STREET.

Trade Notes

SUPPLIES of Antimalignyn and Antibacsyn are obtainable from Antibody Products, Ltd., Bushey Grove Road, Watford.

AYRTON, SAUNDERS & CO., LTD., manufacturing chemists, Hanover Street, Liverpool, make, on another page, a window display proposition of interest to most chemists.

HOT WATER BOTTLES.—Francis Newbery & Sons, Ltd., Charterhouse Square, London, E.C.1, announce that there is no increase in the price of their Wenbery M moulded hot water bottles.

COMMUNICATIONS for Lyon, Proprietaries, manufacturers of Kero-Tar, Paraf-Tar and Cremor Cutis, should be addressed to Mr. J. B. Hartness, 63 Albert Palace Mansions, Battersea Park, London, S.W.11.

MR. H. W. BRAUN, 16 Water Lane, Great Tower Street, London, E.C.3, has been appointed sole distributor for Camfortol and Iodofax, preparations manufactured by Pyne, Roberts, Ltd., Brentford, Middlesex.

YVONNE ROUGE.—Yvonne et Cie, 8A Lord Street, Liverpool, have sent us a sample of their Rouge de Ville. This is attractively packed (complete with puff), and, retailing at a popular price, offers excellent value for both user and vendor.

PRESENTS FOR MEN.—A large proportion of the Christmas goods reviewed in the *C. & D.*, September 12, related to articles which were suitable for ladies. Special interest lends itself therefore to a number of coffrets (illustrated below) which we have received from Parfumerie de Fleury, Sentinel House, Southampton Row, London, W.C.1, as several of these are of the type which would be welcomed by men. Attractively packed and inexpensive, the coffrets form an excellent alternative to the uninspiring gift of a box of cigarettes and they should enable chemists to capture or recapture a good amount of Christmas business. The components of the outfits are shaving soap in a bakelite-like case with either brilliantine or talcum. Reference must also be made to the labels on the various articles as they are made of pewter. One of the caskets shown in the photograph is intended for ladies; it contains a compact and a bottle of perfume.

THE MOTHERSILL REMEDY Co., 92 Fleet Street, London, E.C.4, remind chemists that it is necessary for the vendor's name and address to be placed on each box of their well-known seasickness remedy. The word "poison" is marked on the container before dispatch.

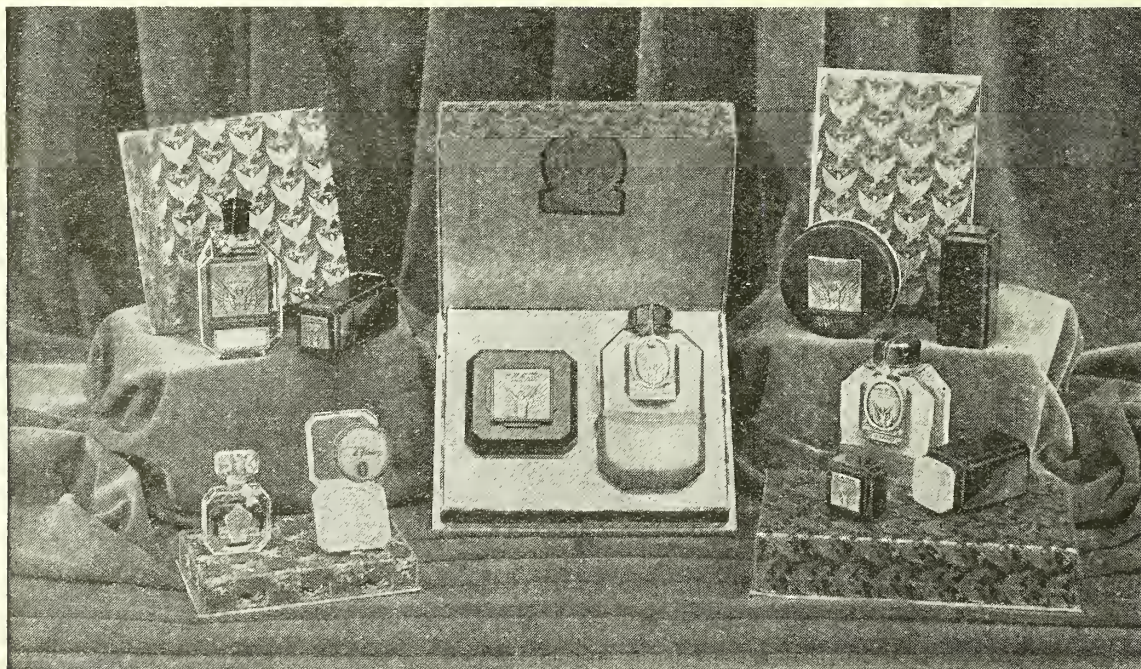
THE PEPSODENT Co., 8 India Street, London, E.C.3, in connection with their special display week, which has been arranged for October 5 to 12, are issuing a new showcard. This and other display material will be sent carriage paid on receipt of the coupon appearing in the company's advertisement elsewhere in this issue.

VINOLIA Co., LTD., Bebington, Cheshire, are offering to send chemists supplies of an attractive multi-coloured showcard (14 in. by 9½ in.) featuring the "Buy British" appeal. Incidentally quite a number of the showcards and price tickets issued by the company bear the phrase "Buy British Goods and Make Britain Busier."

DUBARRY ET CIE, Goldstone Laboratories, Hove, remind chemists that there is no need to go outside the country in order to obtain high-class perfumery and toilet products, as everyone and everything connected with their business is British. Appropriate showcards printed in colours will be sent free on application to the above address.

VEINOTROPE TABLETS.—Continental Laboratories, Ltd., 30 Marsham Street, London, S.W.1, are introducing to the medical profession a preparation based on organotherapeutic extracts for the treatment of diseases of the veins. Veinotrope tablets, as the product is called, are available according to two formulas—M—red—for men, and F—violet—for women.

BOOKLET ON INFANT FEEDING.—George King & Co. Ltd., Sycamore Street, London, E.C.1, have issued under the title of "The Wheatrex Book," an informative publication on infant feeding and Wheatrex. Chemists will find most mothers of young children highly appreciative of this excellently written booklet, which is a guide to feeding an infant from birth to two years old. Copies will be supplied free on application.



THE BUTYWAVE CO., 10 Tachbrook Street, London, S.W.1, have available an attractive showcard for calling attention to their wave-setting cap, a toilet accessory which, it is claimed, solves the problem of home hair setting and the re-setting of permanent waves.

ALFRED BISHOP, LTD., manufacturing chemists, Specks Fields, 48 Spelman Street, London, E.1, in their advertisement in this issue emphasise the British nature of their business, so far as capital, founder, directors, employees, packing, and so forth is concerned.

JOHN SHAW & SONS, WOLVERHAMPTON, LTD., Wolverhampton, have sent us particulars of their Trojan thermo electric inhaler. This apparatus, which is used in conjunction with an inhalant containing menthol, turpentine, camphor, is stated to be a remarkable germ destroyer and invaluable to those who suffer from catarrh, asthma, coughs and similar affections.

GOODALL, BACKHOUSE & CO., manufacturing chemists, Leeds, have sent us an advance copy of the October edition of their quarterly price list. This issue is of a de-luxe character and of special interest, as it has now reached its sixtieth year of publication. The list, the cover of which is silver coloured, relates to packed goods, proprietary articles and sundries. It also contains a foreword and portrait in colour of the proprietor of the firm, Mr. W. Powell Bowman. A copy of the list will be sent post free on request to C. & D. subscribers.

LIVOGEN.—The British Drug Houses, Ltd., Graham Street, City Road, N.1, have brought out a preparation of considerable interest to the medical and pharmaceutical professions. Livogen is stated to contain in

one fluid ounce the whole of the blood regenerative principles of four fluid ounces of fresh liver (including vitamin B), together with an added amount of vitamins B₁ and B₂ and haemoglobin. Therefore it fulfils completely the requirements of a tonic for use in blood-regeneration, and it is likely to be in great demand by doctors and hospitals for the treatment of a multitude of cases where a bad blood picture is a symptom. It is issued in bottles of four fluid ounces, also in bulk for dispensing purposes.

PHARMACY WEEK will be observed in English speaking countries this year from October 12-17. Matthews Laboratories, Ltd., Clifton, Bristol, proprietors of Nostrolin, have produced a Pharmacy Week window display and useful propaganda in the form of package slips setting forth in convincing terms the important part played by the chemist in modern life. This message to the public is free from all technicalities and should meet with a ready response from those who may have never stopped to think of the indispensable services rendered by their chemist. Beyond displaying the Pharmacy Week material no special window dressing is suggested. It is considered that a well-dressed chemist's window, provided that it is fully stocked with a good general selection of merchandise, is the most interesting display from the public's point of view. The lines the chemist usually finds popular in his own locality must be right for Pharmacy Week, which aims to increase turnover during the week in addition to encouraging a wider appreciation of the qualified services of pharmacy. Full particulars of the Pharmacy Week celebration have been sent out to the trade. Any chemist who has been inadvertently missed should apply at once to the above address.

Marriages

CURRIE—HOLLOWAY.—At St. Peter's, Hampstead, London, N.W., on September 20, by the Rev. A. H. Morris, William Murdoch Currie, M.P.S., eldest son of Mr. Currie, Ulverston, Lancs, to Dorothy, only daughter of Mr. Colson Holloway, Stoke Andover. Address: 3 Christchurch Avenue, Brondesbury, London, N.W.6.

DOWIE—ROBBIE.—At the Royal British Hotel, Edinburgh, on September 19, J. Gilmour Dowie, B.Sc., eldest son of Mr. George Dowie, chemist and druggist, "Yarrow," Jordan Lane, Edinburgh, to Margaret Eileen Robbie.

JONES—ALEXANDER.—At St. Mary's Church, Bath, on September 19, Lawrence Jones, chemist and druggist, Manchester, to Violet Alexander.

JONES—WATERS.—At Mount Pleasant Baptist Church, Swansea, on September 10, Ebenezer Jones, chemist and druggist, to Dilys E. B. Waters.

LAST—CHRISTMAS.—At Beechen Grove Baptist Church, on September 23, by the Rev. Ruffell Laslett, Cyril E. Last, M.P.S., son of Mr. Ernest C. Last, chemist and druggist, Watford, to Sylvia Ruth, youngest daughter of the late Mr. Christmas, Watford.

MOORE—ROBERTSON.—At Horfield, Bristol, on September 9, Donald H. Moore, M.P.S., Ashcombe Pharmacy, Weston-super-Mare, to Gladys Irene Robertson, Bishopston, Bristol.

MOSS—DYER.—At Hooton Parish Church, Wirral, on September 23, George Harold Moss, M.P.S., Whitby Road, Ellesmere Port, only son of Mr. George Henry Moss, M.P.S., "Ulverstone," Little Sutton, Chester, to Muriel, fourth daughter of Captain Dyer, "Lucerna," Little Sutton.

Golden Wedding

CHAPMAN—HOPPER.—At the Free Methodist Chapel, Spalding, on September 28, 1881, Ingram William Chapman, chemist and druggist, Crowle, Lincolnshire, to Martha Olive Hopper, Spalding. Present address: "Wellend," Springfield Road, Hull.

Deaths

CLEMENTS.—At the Medical Hall, Cootehill, co. Cavan, on September 25, Mr. Alfred Clements, chemist and druggist, Mr. Clements, who was registered in 1891, carried on business in the town for many years.

KNIGHT.—At Northend, Burton Dassett, Leamington, on September 9, Mr. George Edward Moses Knight, chemist and druggist, formerly partner in the firm of Hunt & Co., chemists, Winchester, aged eighty-eight.

SANDERSON.—At Leeds, on September 17, Mr. John William Sanderson, chemist and druggist. Mr. Sanderson qualified in 1914.

Personalities

COUNCILLOR ASHLEY WEBB, J.P., managing director of May, Roberts & Co., Ltd., druggists' sundriesmen, London, E.C.1, is mayor-elect of Hertford.

COUNCILLOR J. S. SNELL, chemist and druggist, has had to decline the invitation of Accrington Town Council to continue in office as Mayor for another term owing to the claims of business.

MR. T. WYNNE THOMAS, chemist and druggist, Aberdovey, has sent us a copy of "Dovey Ferry: its History and Associations," which he has compiled. The proceeds from the sale of this booklet are to be devoted to the re-erection of the Dyfi refuge.

MR. A. BRUCE DOBELL, chairman and managing director of Prunol Products, Ltd., who attained his seventieth birthday on September 26, received many messages of congratulation from friends in the trade. Mr. Dobell is well known to wholesalers and retailers, as he spends much time in making calls upon chemists in London and the provinces. Wonderfully active, and with an extremely cheerful personality, Mr. Dobell does not look his age. Enjoying perfect health, there could be no better advertisement for the products in which he is interested. Mr. Dobell is a "Man of Kent."



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Information Department

INFORMATION WANTED

Postal or telephone information with respect to makers or first-hand suppliers of the undermentioned articles will be appreciated.

- | | |
|--|--|
| C/289. Beecham's Alabastine (London source) | B/159. Gloria plaster of paris bandages |
| A/299. Biodene | N/309. Hamilton's plasters |
| B/259. Cocoamalt | C/309. Orthogenol |
| H/259. Dalloff tea | G/309. Perfumes made by Myosotis (London source) |
| S/249. Deodorised fluid valerian extract (suppliers) | N/259. Rodestone depilatory |
| M/289. Faichney's clinical thermometers | G/229. Spahn, or span, or spahn gum pastilles |
| M/259. Ferguson's cholera mixture | D/309. Torotox tablets |
| W/289. Flower wax | |

"The Chemist and Druggist" COMPACT LIBRARY

PHARMACEUTICAL FORMULAS (P.F., Vol. 1).

The tenth edition of this, the most complete pharmaceutical formulary in the English language, comprises (1) selected formulas from the British, United States, and several other pharmacopoeias; (2) unofficial formulas from hospital pharmacopoeias and other sources, British, colonial and foreign; (3) known, admitted and approved remedies (218 pages) taken from previous editions of "Pharmaceutical Formulas" and from THE CHEMIST AND DRUGGIST DIARIES; (4) concise descriptions of practical methods of manufacture, adapted to the retail shop; (5) an Appendix comprising laws and regulations governing the sale of poisons, the hours of closing, medicine-stamp duty, the use of spirits and many other data—e.g., a solubility table and chart. The volume contains 1146 pages. Price 15s., by post 15s. 9d.

THE ART OF DISPENSING.

The tenth edition was published in 1926. It has been thoroughly revised and considerably improved, while maintaining the features which have made it so popular with several generations of students. All chemists should keep this book in the dispensary for ready reference when difficulties arise in the course of the day's work. Price 8s., by post 8s. 6d.

VETERINARY COUNTER PRACTICE.

Chemists interested in veterinary practice will find it indispensable, as it deals with the ailments of horses, cattle, sheep, pigs, dogs, and poultry, and the remedies that can be supplied. New edition, 1930 (Eighth), brings this book thoroughly up to date. It has been written throughout by experienced veterinary surgeons. Price 7s. 6d. net, by post 8s.

THE PHOTOGRAPHIC CHEMIST.

This is a concise guide to chemists commencing and carrying on a photographic department. The book is a reprint of the treatise in THE CHEMIST AND DRUGGIST DIARY, 1926, with additional chapters and formulas. Price 3s. 6d., by post 3s. 8d.

PHARMACEUTICAL BOTANY.

An attractively written book dealing with the plants mentioned in the examination syllabus of the various pharmaceutical examining bodies. Botanical terms which at first sight are forbidding in appearance are explained so that the meaning is made crystal clear. A useful gift for apprentices and assistants who have not passed the qualifying examinations. Price 5s., by post 5s. 4d.

DISEASES AND REMEDIES.

Now in its sixth edition (March, 1931). It has been carefully revised by an experienced medical practitioner and parts of the book have been rewritten. Price 5s., by post 5s. 3d.

Published by "The Chemist and Druggist"

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The CHEMIST AND DRUGGIST

VOL. CXV OCTOBER 3, 1931 NO. 2695

The Manufacturers' Opportunity

It has been the general opinion that ever since the gold standard was reintroduced in 1925 as a basis for our currency, chemical manufacturers, with industry generally, have found it somewhat difficult to meet competition from most foreign rivals for the home-trade business, and that their position as serious competitors in many of the world's markets was quite hopeless. Consequently the industry in this country, although it has made some measure of progress during the past five or six years, is still one that has yet to warrant being classed as of world importance. It is undoubtedly sounder and stronger than hitherto, but it has its limits. That limitation of capacity even to hold the home trade, much less secure export business in good volume, has been to no small extent due to the comparatively high international value of sterling, which made our prices when converted into overseas currencies prohibitive to the foreign buyer. Tariff walls, cheap labour and longer working hours in some countries added to the difficulties, but the gold pound was the principal handicap. The basis of world value of sterling is no longer the gold standard; now, and very probably for some considerable time to come, the international monetary equivalents of our currency will be its world economic value. At the moment the depreciation of the pound averages from 20 to 25 per cent. In other words, the foreign buyer can, with his currency, purchase for 15s. or 16s. what would have previously cost him £1 sterling. Further, what the foreign manufacturer has previously sold on this market in competition with home makers for 15s. or 16s. he will now require the equivalent of £1. The opportunity of home manufacturers to consolidate their position in this market and to embark upon an intensive attack for export business is clear and needs no emphasising.

The Home Market

In a large number of products where the manufacturers are not dependent on outside sources for supplies of raw materials there is no excuse for the slightest advance in their prices; they will be well advised not to watch rates of exchange, but rather to show consumers that they can be relied upon in an emergency not to take advantage of the temporary breakdown in outside competition. Makers of the numerous products which are the subject of Continental-British conventions should continue to sell freely in this market at the old prices. They will be building well for the future if they display the good sense to seize the opportunity to gain the goodwill of home consumers. In those products of which to varying extents supplies of raw material are drawn from abroad some slight advance in prices may in due course be justified, but here again it

should be restricted to the actual amount involved, and might well be postponed until it is found necessary to purchase fresh supplies of the imported raw materials. At the moment there would appear to be little good reason for the slightest restriction in sales of such products at the old rates to genuine consumers. Briefly, the policy of the home makers should be to keep down their prices and to do the business.

Export Markets

The international depreciation in sterling should in effect discount manufacturers' quotations for many important overseas markets from 20 to 25 per cent. That should be sufficient to overcome many tariff barriers, and should put them in a favourable position with competitors for the business. Exchange rates are still fluctuating almost hourly, and at present it may be rather premature to look for much actual business in this direction. It is, however, reasonable to expect that the world's currencies will settle down at no distant date. No effort should then be spared to secured more shipment business. Perhaps even more so than in the case of the home market it is essential that makers should be satisfied to sell for export at the lowest possible prices. Each and every export sale will help to balance our trade, and will be bringing in sterling, thus helping to maintain our currency. This country has experienced the effect of cheap foreign currencies; it is for our manufacturers to use the present position to the same purpose.

The Opportunity

The present position affords much greater scope to the home makers than the Key Industry duties or any other similar artificial help. The entire business of the home market in those products manufactured here should be assured, and the possibilities of export business are now greatly in our favour, when compared with those of our competitors who are still on the gold standard. So far there has been no serious attempt to make unwarrantable advances in prices, the few increases in home makers' prices recorded having mostly been due to higher prices for raw materials. In their own interest and in the interest of the nation the manufacturers must concentrate on keeping down their prices, and at the same time must make every effort to increase and not limit their sales, both at home and overseas. Of late there has been a deal of talk of the necessity for economy, not a little of which has been misdirected. Economy as preached will certainly not revive industry and increase the circulation of money; it will not help to adjust the adverse trade balance. Economy, as we see it, is best practised by a determination to keep down prices and increase sales in every possible way. We therefore advocate a policy of active selling at the keenest prices, particularly making the fullest use of our cheap currency to force sales abroad. The circulation of money at home and increased exports are, we believe, essential factors in alleviating the present industrial depression. It is the manufacturers' opportunity.

Another Milestone

THE introduction of a colour scheme on the cover of THE CHEMIST AND DRUGGIST suggests a brief account of the changes that the exterior of the paper has undergone since 1859. For some years the issues were printed from beginning to end on white paper; but in 1873 an orange-coloured cover was introduced, the ink remaining black. Shortly after the change from a monthly to a weekly interval of publication, in 1886, a smoother, lighter-tinted and heavier paper was adopted for the cover, with blue printing. With the present issue a further step has been taken towards availing ourselves of the most recent hints that artistic taste can suggest. Another period of forty-five years will bring us to the year 1976, by which time, or possibly earlier, a further modification in the style of the cover may suggest itself. The covers of the Special Issues form a separate chapter of C. & D. history; but it may be recalled that the present series began in July 1889. As we wrote in our Jubilee Number of July 31, 1909, "Simplicity, rather than ambitious display has been the guiding principle of our cover-designs."

Corner for Students

Conducted by Leonard Dobbin, Ph.D.

Communications should be addressed "Corner for Students, 'The Chemist & Druggist,' 28 Essex Street, London, W.C.2."

QUALITATIVE ANALYSIS FOR JUNIOR STUDENTS

A MIXTURE of two salts will form the subject of the next exercise in qualitative analysis. The mixture may contain metallic and inorganic acidic radicals occurring in the British Pharmacopœia. It is to be submitted to a thorough systematic examination, all its constituents are to be detected, and proof is to be given that the substances detected are the only constituents of the mixture.

Students' applications for portions of the mixture of salts (accompanied by a *stamped and addressed envelope*, not a stamp merely) will be received up to Tuesday, October 6, on which day the samples will be posted. Students' reports will be received up to Saturday, October 17. Each report should contain a concise account of the work done, and should include a list of the constituents detected. In this list any substance regarded as an accidental impurity should be distinguished from the essential constituents of the salts composing the mixture.

SPECIAL NOTICE.—The prizes in this analysis will be awarded only to apprentices or assistants (not former tournament prize-winners) who are preparing for the Qualifying examination of the Pharmaceutical Society of Great Britain or of Ireland, and who have not passed in Chemistry in the Preliminary Scientific Examination in Great Britain, in the Licence Examination in the Irish Free State, or in Chemistry Part I, in Northern Ireland, *which facts must be attested on their reports.* Others may obtain specimens of the mixture of salts, and their reports will be separately adjudicated, but they will be regarded as *hors concours*.

*** The Analytical Tournament for the coming Winter Session opens in November, and the usual intimation will appear in our first issue for that month. Students who intend to take part in the competition are recommended to apply for and to examine samples of the mixture mentioned above, and to submit reports on their analysis.

Early English Drug Jars

A BOOK just published by the Medici Society forms an important addition to the knowledge of English pharmacy pots hitherto at the disposal of the average student of this fascinating subject—and, it may be added, of the average collector. "Early English Drug Jars" (10 in. by 7½ in., pp. 50, 10s. 6d.) is sumptuously printed and illustrated, and its author is no less an authority than Mr. Geoffrey E. Howard, well known in this connection to readers of THE CHEMIST AND DRUGGIST. Before giving a brief outline of the author's descriptions of the specimens in his collection, it may be mentioned that the final section of the book is devoted to such more or less related items as pill slabs, posset pots, barbers' bowls and wine cups.

Mr. Howard guides his readers at the outset to an appreciation of the basic facts governing the ware "generically known as Lambeth Delft." He writes:—

"The name Delft, as applied to pottery made in England during the XVIIth century, is an entire misnomer. A couple of generations of Englishmen were familiar with the work of the Lambeth potters before they had probably even heard of Delft as a town with much claim to renown for its pottery. . . . The art of tin-enamelling was apparently introduced into England in Elizabeth's reign by an Italian, Jasper Andries, who migrated from Antwerp and started operations in Norwich, moving to London in 1570."

Mr. Howard proceeds to give an explanation that seems the only likely one as to the rarity of jars of earlier date than 1666, the year of the Great Fire of London. He suggests that the number of apothecaries at that time who were of sufficient substance to order a set of drug jars for their shops was relatively small, and that nine-tenths of them were probably in business in the City. The Fire thus accounted for an extensive destruction of ware that might otherwise have come down to our own day. The oldest specimen of a polychrome English drug jar is assigned to about the year 1652. Mr. Howard's study of his subject has been so minute that, as an example, he can trace the work of one artist for ten years. The first appearance of an angel's head, a common feature at the close of the seventeenth century, is on a pot dated 1660. Some of the well-known Dublin ware of 1684, dated and initialed, appears among the illustrations. We note with interest that among the sources of information referred to in the author's introductory note are the articles specially contributed to THE CHEMIST AND DRUGGIST by Dr. Charles Singer. A glossary compiled by Mr. C. J. S. Thompson is appended to the chapter on seventeenth-century drugs; and the last page of the volume contains a brief and valuable "Note on Fakes," a subject on which intending purchasers of specimens will be glad to be informed.

LEAGUE OF NATIONS.—Publications recently issued by the League of Nations include Volume II of the Report on Opium Smoking in the Far East (Allen & Unwin, Ltd., 12s.), and the Report of the Permanent Central Opium Board for the year 1930 (C. 439. M, 186, 1931, XI).

WELLCOME CHEMICAL RESEARCH LABORATORIES.—The following reprints from various scientific journals have been issued by the Wellcome Chemical Research Laboratories:—"The Assay of Mixtures of Cinchona Alkaloids," by J. A. Goodson and T. A. Henry; "The Action of the Cinchona and certain other Alkaloids in Bird Malaria," by J. A. Goodson, T. A. Henry and J. W. S. Macfie; "The Composition of Cinchona Febrifuge," by J. A. Goodson and T. A. Henry; "Mercuration of some Polyhydroxybenzaldehydes and their Monomethyl Ethers," by T. A. Henry and T. M. Sharp; "The Action of Beckmann's Mixture on some Monocyclic Terpenes—Part II," by T. A. Henry and H. Paget; "Oxonitia," by T. A. Henry and T. M. Sharp; "The Ureides of *P*-Aminophenylstibinic Acid," by W. H. Gray and others.

Studies from Life

By John H. Robinson

(Continued from the C. & D., September 5, p. 302.)

THE time was fast approaching when my three years of apprenticeship would be up, when one morning I received a letter from an old assistant, who had been a very good friend, telling me of a vacancy in a large business down in Sussex which he was managing. Having obtained permission, I went down for an interview; my friend was away, and the proprietor knew nothing about me. Something made me look upwards, and on a shelf I saw a letter from my father to my friend which I knew referred to me, so I asked for it to be opened. Everything was in order, and I was engaged to start as soon as possible; when asked what salary I wanted I said I would go for nothing, which afterwards was increased to two shillings and sixpence a week, and five shillings after six months. I thought my fortune was made. I hurried back to Hampstead with the good tidings of something accomplished, something



Photo] [Medrington
MR. JOHN H. ROBINSON

done. The gov'nor was mystified at my getting the job without a reference from him, and his wife, who had a very caustic tongue, candidly told me she was very pleased to hear of my coming departure. I replied that it was mutual, in fact I had already made up my mind that if ever it was my luck to get married, it would certainly not be to a lady of small stature (and I didn't). During the rest of my time, my pastor and master gave me a lecture each morning on the fact that I was now going out into the wide world, and how sheltered I had been with

him, and how careful I should have to be in the future. There was one thing he wished me to do, and that was to go up to Dorset Square and apologise to his mother-in-law for smoking her out of the sitting-room one Sunday morning. I have never smoked in my life, the culprits were the assistant and the gentleman lodger, a parson's son of the very best. "If it will please you, I'll apologise," I replied, "but I am not guilty." He handed me a sack, I rolled it up, stuck it under my arm, and off I went to see the "O.C." as she was irreverently called. "There is your sack, Madam, and I am sorry that you were smoked out that Sunday, but I don't smoke myself and never have done. Good morning." Years afterwards, I was dashing down Fenchurch Street during the dinner-hour and saw a massive form in black under an umbrella approaching. I looked up—Oh, horrors!—it was she. I didn't stop, and I never saw her again.

The Apprenticeship Ends

The last day of servitude arrived, which was a Saturday. We had the usual rissoles for supper, and after all these years I hate the sight of them still. My indentures were handed over, the farewells were duly spoken, and I made my way to Euston for the 50 p.m. train to the North, a very different person from what I had been three years before on my arrival. Digressing for a moment, I should just like to say that in spite of being such a stormy petrel, and after all the rows we had, we were still friends, and I was more than pleased, on passing the "Minor," to

receive a telegram which is now in front of me from my old master—"Will you come back to me?" but the romance was somewhat taken out of it, as the post office had bungled the name, and signed it with the unromantic name of "Lyre." For obvious reasons, I did not return to this domicile. After a few days' holiday at home I made my way south to Sussex.

The new master was a sport of the first water, fond of a horse and gun, and enjoyed life to the full. I was again indoors, but slept out. He was no carver at the dinner table, and would cut the meat into chunks, and used to say to me: "Here, Shadrach or Nebuchadnezzar, fix that." The business had attached to it a considerable wholesale trade and a large mineral-water factory. The first duty I had was to take stock, which hadn't been done for many years; and I found enough castor oil, I should say, to dose the whole county. It was a small country town, not far from a place that used to be extensively advertised as a "paradise in Surrey," which no doubt, from several points of view, it was. One day some boys who had been misbehaving themselves by throwing stones into the lake at "Paradise," and at different people, were brought to the shop some three or four miles away, and a black draught was given to each as his punishment; having had the option of a thrashing or a draught, they knew the effect of the one, the other had to be discovered. Not a word was ever heard afterwards about it—what a row there would be to-day!

A very pleasant twelve months had now expired; I felt it my duty to move on, and wrote to a friendly wholesale house to learn of any vacancies. They told me Messrs. Lamplough, of Fenchurch Street, London, wanted a junior, and I was engaged to go there; hours nine to seven, and four on Saturday, salary thirty shillings a week outdoors. What a trade the firm did! The manager and myself served over 2,600 people in one day; there were queues of city merchants, clerks, postmen, Billingsgate fish porters, all sorts of people on most really hot days.

Studying at Edinburgh

The next move was to Edinburgh to Duncan's School. My father would not hear of my being in London, as my health was none too good. Mr. Duncan was a born teacher, the guide, philosopher and friend of all his students. He worked hard himself and saw to it that his students did likewise. He used to go round at night with that big dog of his to the haunts of studentdom, and woe betide any man who was caught out with no reasonable excuse. I failed twice on the aggregate for the Minor, and on looking back, perhaps I deserved it. Where I lodged there was an uncle and aunt and their niece, a young widow who looked after me well. On Friday nights there was a revival class at my place, and from eight to ten all the student visitors, about two dozen, and my landlady, adjourned to the drawing-room for a good old sing-song, and we forgot the problems of the "Minor." After failing the second time I thought that I had better change my abode and lead, if possible, a more strenuous life. I mentioned the matter to one of my fellow students, who, I am happy to say, is one of the few still with us hale and hearty. He fully agreed, went round to the next street, and sent me a telegram: "Come home to-morrow—Father." I showed it to my landlady, who expressed her regret at my departure. My friend went off and got me rooms with another widow, who I heard had two beautiful daughters, but I never saw the place or them either. The following morning I actually did receive a very hot letter from my stern parent, telling me to come home at once, and off I went that day.

Half the vacation was spent in a part-time situation. Then I wrote to an old student in business in Edinburgh asking him to get me rooms, which he did—another widow and five daughters. Seeing a photograph of a very pretty young lady at home, I told my people that I intended taking it back with me. Of course I was told that I was not to do any such thing, but I did, and never gave any reason for my thushness, in spite of all possible pressure. Reaching Edinburgh one evening, I arrived at my new lodgings, took the photograph out of my bag, very carefully placed it on the mantelpiece, and gave it one fond gaze in the presence of one of the daughters. Next morning I went to see my old landlady, taking her a view of a part of the Lake District, something I gave to all my landladies who treated me properly. She informed me that she had already heard of my return the previous evening. She asked me which way I went to class; I told her, and she met me every night. This went on for a week or so; I could not eat, sleep or think. If I were worth looking after, unqualified, what would it be when I was qualified, and could earn double the money? I put the case before my friend, and he bluntly said, "Ask her what the devil she means by it." The following day I took my courage in both hands, and when we met: "Are you quite well to-day?" "Yes, I am," I replied. "Now, look here—I left such-and-such a street to get out of your way, and here you are meeting me every day. As the song says—As friends we met, as friends we part. Good-bye!" We shook hands, and I never saw her again nor heard from her.

Having successfully negotiated the first day of the examination, of which one incident was that I had to go to the examiner no less than eight times about the balance being out of order, the second day arrived. I was sent to an examiner who, I had been warned, suffered from acute indigestion. I told him of the warning that I had received, and he denied that he suffered from any such complaint. He was very nice about it, and I got my certificate. The usual telegram was sent home, but my father did not believe it until he had had a letter confirming the news.

Back to my lodgings I went, had another good look at the photograph I had placed on the mantelpiece, when one of the daughters made the remark: "Won't the lady in the picture be glad?" "That," I exclaimed, "is a married woman with two children"; and I proceeded to tell the whole story of how I had wasted considerable time in my last rooms by talking, and how I had determined such should not happen again, as it was the very last opportunity from a financial point of view I should have of sitting for the examination. My idea had worked well. "Good morning" and "Good evening" were practically all I got, and all I wanted. When I had finished my tale they laughed heartily.

A Long Voyage

I had the chance of several short voyages, but I wanted something more pretentious, and I got it in more ways than I expected. The head of a steamship line (a friend of my father's) offered me a trip to South America, a matter of three months. The sailing was from Liverpool at the beginning of the month of October; and going down Channel that night we ran into a full gale, which did considerable damage. At such times there are only two feelings—one, you wish you were dead; the other, you are sorry you are not. On opening my cabin door the next morning, I found a sailor had broken his right arm in two places, the carpenter had two fingers taken off, and the steamer had been turned round and headed back for Holyhead. Six stowaways of Liverpool origin appeared; they were quite ready to go ashore, having had enough of the sea for a lifetime. Two fresh men to make up the crew were obtained, and we again set off. There were about six passengers and some very valuable live stock, with a cargo of iron rails. We called at S. Vincent, the Cape de Verde Isles, for coal, and crossed the Equator on my twenty-fifth birthday. I stood the captain and the ship's officers a bottle of whisky and had to pay full price; on retiring to bed I found they had very kindly wrapped my pyjamas round the empty bottle.

Eventually we reached Monte Video, and the day after Buenos Aires. After discharging some cargo there we proceeded up the river Plate to Rosario. Before the steamer left I was asked to go ashore and post the ship's letters, but before doing so I particularly asked what time she sailed. I was given a good two hours, but was back in less than one, only to see the steamer was on the move. "Get a boat, get a boat," shouted one of the officers. I got a boat all right, and made the man in charge understand what I wanted. I was soon alongside the steamer, and offered him far more than was his due, which he refused. He then produced a knife, and showed me what he intended to do with it. Having already seen what knives could do out there, I needed no second invitation to hand over all the money I had in my possession, and up the rope ladder I went for dear life. Reaching the top I swung my walking-stick round and, unfortunately, hit the sailor who had put the ladder over the side for my benefit, a smack across the face, which he took in quite good part, knowing it was a pure accident. Off I went to the bridge, where the captain greeted me with: "Oh, I thought I had left you behind!" He had already queried my ticket, as to whether it was available for the round voyage, had written the head office, and was told it was quite in order. He eventually paid for all this and some more.

Illness

At Rosario I was suddenly taken ill and went to see Mr. Paul, one of the best of Scotsmen and a chemist, who kept me there some hours; when I left I was as weak as a dead rat, and to get to the wharf where the steamer lay I had to climb a gate at least eight feet high. How I did it I don't know to this day; Mr. Paul afterwards offered me a berth in his pharmacy, but the hours were much too long. Back to Buenos Aires we went to get more cargo, and I was not asked to post any more letters. Soon after leaving the Plate I developed dysentery, and I was laid up the best part of the time coming home. The captain used to come every morning to ask me "where I would like to be buried"; but his grim sense of humour did not cut any ice with me, and if it hadn't been for my knowledge of medicine I should have experienced the fate of two firemen who died on the passage. Reaching Las Palmas, I determined I would see a doctor. The captain arranged that we should go ashore in a "bum" boat. On getting ashore he hired a buggy affair and we eventually reached the agent's office, where the two of them started a lively conversation about recent storms and wrecks that ensued, when I, feeling like "the wreck of the Hesperus" myself, butted in with "What about a doctor?" "Yes, he has been nearly dead," exclaimed the skipper, and off we went up some steps to a doctor's house. A hideous, pock-marked old Spanish woman came to the door. "Now, this is the gal for you," said my facetious captain, at the same time giving me a dig in the ribs, with his thumb.

Reaching the Hospital, I saw the matron, and she very kindly gave me all the information she could, as all the doctors had finished. Back to the port where I had landed I made my way, hungry as a hunter. I would have cheerfully given a sovereign for a bath bun. It was fully two hours before the captain appeared, and he had to give me some brandy, for I was "done," and I should never have been able to climb the ship's ladder. There was boiled mutton for dinner; I never enjoyed it so much before or since. From now on I began to get better, but unfortunately just before Christmas I developed an abscess at the root of a tooth and had a face like a full moon, so there was no Christmas fare for me. The captain had a live turkey given him in Buenos Aires, and some of the crew had great expectations, but they were not realised. Christmas Day passed, the poor unfortunate bird which had travelled so far, and was bound for the captain's home, most mysteriously died practically in sight of Liverpool. No one knew how, or why.

Quinine Substitutes

IN an article on "Substitutes for Quinine" a special correspondent in "The Commercial" (Manchester) gives a résumé of work done in the synthesis of new anti-malarial remedies. Referring at the outset to the recent synthesis of plasmoquine by three members of the research staff of the I.G. Farbenindustrie, the writer regards this, although not the first step, yet the most successful of many attempts to find a substitute for quinine as a specific against malaria. Work is in progress along two other lines of research. Search for a substitute for quinine has occupied the attention of organic chemists since the early days of the science, but until the last two years the natural cinchona alkaloid—quinine—has retained the position it has held for nearly 300 years as the specific against malaria. It has, however, certain unpleasant effects, and in some cases patients show complete intolerance. For these and other reasons a substitute is desirable.

LINES OF RESEARCH

The search for substitutes has been prosecuted along three main lines: Natural and cheaper alkaloids of similar properties obtainable from other plants, including the other alkaloids of cinchona, the synthesis of more potent homologues of quinine, and search for a substance of the synthetic organo-arsenical type, such as salvarsan. Endeavours to obtain alkaloidal extracts or the bases themselves, from plants other than cinchona, usually from plants already possessing local reputations as specifics for malaria, have not so far provided substitutes of any importance, with the single exception of the alkaloid harmine of the harmal, or wild rose seed. The same alkaloid, which is an isoquinoline derivative, has also been obtained from yagé, a plant from the Amazon basin which has been only lately investigated. This alkaloid has received much attention of late in the laboratory of the Royal College of Physicians of Edinburgh by Dr. Kermack and his collaborators. The work has now reached the synthetic stage, and the Chemotherapy Committee of the Medical Research Council is testing derivatives with regard to their physiological and especially anti-malarial properties.

CINCHONA ALKALOIDS

With regard to the use of the total alkaloids of cinchona bark, their lower cost as against that of the pure quinine has stimulated work, especially in India and Italy. It was calculated by Major Acton that its use would yield a saving of 46 per cent. on the cost of quinine. This cinchona febrifuge, however, has only met with limited success, in spite of the dictum of Professor Giemsa, of Hamburg, who in his report to the subcommittee of the League of Nations Malaria Commission gave his opinion that it is free from all toxicity. According to the second report of the same subcommittee the "residual alkaloids," known as kinetum (consisting of quinine 15 per cent., cinchonidine 35 per cent., cinchonine 25 per cent., quinidine 5 per cent., and quinoidine 20 per cent.), are virtually of equal value, and a mixture of the principal alkaloids, purified only so far as to be free from the more toxic constituents, would serve equally as well as quinine. This contention, however, requires further examination in the field.

ANTI-MALARIAL SYNTHETICS

Numerous attempts have, as already stated, been made to obtain synthetic homologues of quinine of equal or superior anti-malarial properties. The parent substance of the cinchona group of alkaloids is cupreine, and quinine is methylcupreine. The methylation appears important since cupreine is much less active than quinine. It has been found that hydro-derivatives such as methyl-hydrocupreine (hydroquinine), ethylhydrocupreine (optochine), and the isomyl and isocetyl derivatives (known as eucupine and vuciné) have an

increasing parasitotropic effect. Unfortunately, these cannot be used without danger. Optochine, for example, contracts the field of vision and even produces blindness. The others possess in a more marked degree the cinchonism of quinine. In this direction progress has been severely hampered by the lack of laboratory technique of infection.

MALARIA PARASITES

In 1926 Professor Giemsa made the important discovery that *Plasmodium præcox*, the parasite of bird malaria, was affected by quinine in the same way as the malaria parasite of man. *Plasmodium præcox* is carried by *Culex pipiens* in the same way that the human parasites are carried by the anopheline mosquito, and it is interesting to note that it was in *Culex pipiens* that Sir Ronald Ross discovered the cycle of development of the sparrow parasite, with which the late Professor Grassi was unable to obtain positive results on human subjects as far back as the 'nineties, the discovery that led Ross to his greater epoch-making work. The action of quinine upon avian malaria led Giemsa to perfect a method of laboratory infection of canaries. This was used by Dr. W. Röhl, the head of the chemotherapeutic department of the I.G. Farbenindustrie, in testing various synthetic products. Among these one, now known as plasmoquine, was found to give a parasitotropic effect upon avian plasmodia something like sixty times as strong as that of quinine.

EFFICACY OF SUBSTITUTES

According to Dr. H. Horlein, the director of the drug department of the I.G. Farbenindustrie, plasmoquine is a 6-methoxy quinoline with an alkylamino side-chain, and a patent has been applied for in this country for alkoxyaminoquinoline derivatives. Clinical work with plasmoquine shows it to be the most potent and anti-malarial agent yet discovered. Its efficacy in small doses, and especially in conjunction with quinine (which has also been advocated by the German professors Sioli and Mühlens) has been shown. It has been found to be a valuable quinine substitute for patients susceptible or intolerant to large doses of quinine. The amount required is much smaller, it is practically tasteless, the effects upon digestion are negligible, and it is well tolerated by children.

The success attendant upon the treatment of trypanosomiasis and syphilis by organo-arsenical compounds long ago encouraged workers, of whom Professor Giemsa was one, to investigate their influence upon the malaria parasites. In the literature may be found numerous methods of using them, especially salvarsan and neo-salvarsan, both alone and in conjunction with quinine. In the sequelæ and cachexia after the malignant forms inorganic arsenicals have long been found superior to quinine. It cannot, however, be shown that arsenic has anything approaching the specificity of quinine, though in forms that resist quinine salvarsan has brought about recovery. More recently it has been found possible to combine organo-arsenicals with quinine in molecular proportions, and one of these compounds, quinostovarsol, has yielded valuable results when injected intravenously. The substance, according to E.P. 249,849 of Poulenc Frères, is obtained by the reaction between solutions of quinine and 3-acetamido-4-hydroxyphenylarsinic acid (stovarsol). A selenium compound of similar nature, said to have valuable therapeutic properties, is the subject matter of a German patent. In this connection it is interesting to recall that Santesson obtained favourable results on malaria in Algiers with a similarly coupled compound of quinine and antipyrine, which he called quinopyrine.

The League of Nations, which has been influenced by its investigations by the alarming increase of malaria in S.-E. Europe, intends to include in its programme a study of the value of the two most likely of the substitutes mentioned above—plasmoquine and quinostovarsol.

Solution Phenomena in Pharmacy

By F. G. Hobart, Ph.C.

THE passage of a substance into solution is often accompanied by a marked change in temperature; in general, the net thermal change is the difference in magnitude between two contrary processes which occur simultaneously with dissolution, viz.:—(a) In the liquification of a solid, work having to be done in breaking down molecular cohesion, heat is taken from the solution, and a fall in temperature occurs; (b) interaction between the dissolved substance and the solvent with the evolution of heat. When the solvent is water, a considerable amount of heat is generated with a substance which hydrates readily. This hydration may be of the nature of reaction, with the formation of another chemical compound, as occurs when quicklime is slaked, and, as an extreme case, when metallic potassium combines with water with the evolution of sufficient heat to ignite the escaping hydrogen; or it may simply consist of the addition of water to the molecule similarly to water of crystallisation. Salts which, to use an older phraseology, "have little affinity for water," or, in other words, do not react with it, are productive of considerable lowering of temperature when passing into solution (c.f. ammonium nitrate, potassium iodide, etc.).

In connection with the foregoing the behaviour of hydrated and anhydrous salts is interesting; the following table shows the net thermal effect of dissolving one mole of the salt in water:—

$\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$	→	- 2.75 calories
CuSO_4 (anhydrous)	→	+ 15.8 "
$\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$	→	- 3.91 "
MgSO_4 (anhydrous)	→	+ 20.17 "

The use of freezing mixtures of salts or of ice and a salt, is a familiar example of the practical application of the foregoing principles. In addition to actual dispersion, the molecules of many substances, upon passing into aqueous solution, tend to undergo further dissociation into what are termed ions. The process of

Ionisation

consists in the separation of the molecule into atoms and/or compound radicles; the ions existing free in the solution, but under a condition of electrification which prevents reaction with the solvent. The sodium ion (sodium) which is present in the solution of a sodium salt, is not the neutral sodium atom of which the properties constitute the normal chemical reactions of the metal, but that atom carrying a unit charge of electrical energy of the order of 96,550 coulombs, which inhibits ordinary chemical activity. In the case of hydrogen and the metals, the charge is normally positive, whilst the basic radicles carry a negative charge. Many of the elements are, of course, capable of assuming either a positive or negative character, according to circumstances. The valency, or combining power, of an element depends upon the number of unit electrical charges it carries, and in the case of a compound radicle, the residual charge, i.e., the number of uncompensated charges, e.g.:—

Hg^+	Hg^{++}	
Mercurion	Dimercurion	$-\text{O}-\text{N} \begin{smallmatrix} \nearrow \text{O} \\ \searrow \text{O} \end{smallmatrix}$ Nitranion
Fe^{++}	Fe^{+++}	Monad compound radicle
Diferriion	Triferriion	and $-\text{O}-\text{S} \begin{smallmatrix} \nearrow \text{O} \\ \searrow \text{O} \end{smallmatrix}$ Sulphanion
Cl^+	O^-	Diad compound radicle
Chloranion	Oxyanion	

It should be noted that the term "residual charge" is not here used in the sense in which it is applied to the working of a Leyden jar. It follows, therefore, that oxidation in solution may be regarded as the addi-

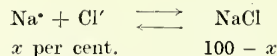
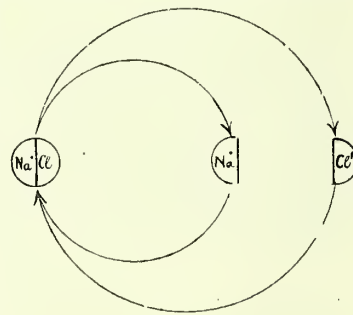
tion of a positive charge to an ion, or the removal of a negative charge; reduction corresponding to a reversal of these terms.

Ionisation is a property common to salts, acids and bases, and the strength of an acid, or a base, is an expression of its comparative ionisation at any given concentration. The following table, compiled by the writer, gives the proportional strengths of some typical acids as determined by taking the mean of three common methods of estimation; the bases (after Walker) are values obtained in $N/40$ solution:—

Acid	Strength	Bases	Strength
	Per cent.		Per cent.
Hydrochloric	100	Lithium hydrate	100
Nitric	97.2	Sodium "	98
Sulphuric	52.2	Potassium "	98
Oxalic	20	Thallium "	89
o-Phosphoric	9.6	Tetraethylammonium hydrate	75
Tartaric	3.6	Diethylammonium hydrate	16
Acetic	1.25	Ammonium hydrate	2

The choice of an indicator in acidimetry or alkalimetry depends upon principles of ionisation since the relative sensitiveness of the

substances used as indicators varies with ionic concentration. In an ionised solution the individual molecules owing to the opposite electrical charges of their component atoms, undergo a perpetual cycle of combination and dissociation, e.g., with sodium chloride. In any given concentration, however, the proportion of the salt ionised remains constant, e.g.:



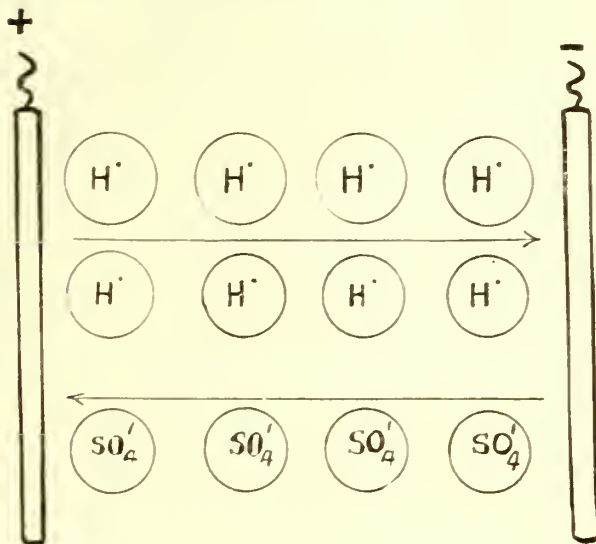
the value of x in the above expression depending on the strength of the solution and varying with different substances. It is found that only solutions containing ions are capable of conducting electricity. Pure water is a non-conductor, hence substances which are capable of rendering water conductive are termed

Electrolytes

and conduction of this sort is distinguished as electrolytic as compared with ordinary metallic conduction. The sugars, alcohols and many other bodies met with particularly in organic chemistry are non-electrolytes. Since the conductivity of water depends on the presence of electrolytes, and electrolytes themselves, if perfectly dry or dissolved in a dry organic solvent, cannot conduct a current, it follows that the conductivity of a solution depends upon the physical condition (i.e., ionisation) brought about by a relationship between the solute and water, and cannot be regarded as a specific property of either.

If the two ends of a wire carrying a current are dipped into an ionised solution the cations (the positively charged ions) travel towards the negative pole, and are there discharged, whilst the anions carry their

current to the positive pole. When, in the familiar experiment of the electrolysis of water, acidulated with sulphuric acid, a current is passed, the positive hydrions migrate to the negative pole and gaseous hydrogen is there liberated; at the positive pole the discharged sulphurions immediately react with the water re-forming sulphuric acid and liberating oxygen. The electrolytic preparation of Carrel-Dakin's solution is an example of the application of electrolysis in the preparation of a pharmaceutical product. A 5-per-cent. solution of sodium chloride is placed in a container with graphite plates as poles; when the current



is passed the "neutral" sodium atom liberated at the negative pole attacks the water with the formation of sodium hydrate, which then interacts with the chlorine at the positive pole:



The internal friction of a solution increases with concentration, and, in consequence, ionisation increases with progressive dilution. Since the electrical conductivity (λ) of a salt in solution is an expression of its degree of ionisation, the dilution beyond which no further increase in λ occurs may be regarded as the point of total ionisation of the solute.

According to

Ostwald's Dilution Law

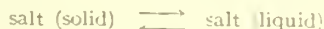
the equilibrium between the ionised and non-ionised portions of sodium chloride in solution =

$$(i) \quad \frac{[\text{Na}^+][\text{Cl}^-]}{[\text{NaCl}]} = k$$

When $[\text{Na}^+]$ and $[\text{Cl}^-]$ represent the concentration of the sodium ions (sodions) and chlorine ions (chloranions) respectively, and the denominator is the concentration of the non-ionised salt, k is constant, whatever the strength of the solution. In a litre of solution containing one mole (58.2 grams.) of sodium chloride when 68 per cent of the salt is ionised:—

$$(ii) \quad \frac{[\text{Na}^+][\text{Cl}^-]}{[\text{NaCl}]} \longrightarrow \frac{68 \times 68}{32} = \frac{144.5}{100} = 1.445 = k$$

In addition to the equilibrium which exists between the ionised and non-ionised salt there is in a saturated solution a relationship between the solid and the liquid (i.e., dissolved) substance. A reduction in temperature will alter the ratio:



and some of the salt will fall from solution (or the solution will be supersaturated). Similarly if the equilibrium (ii) above, be disturbed by the introduction of further chloranions, for example, by passing gaseous hydrochloric acid, in order to preserve the value k ,

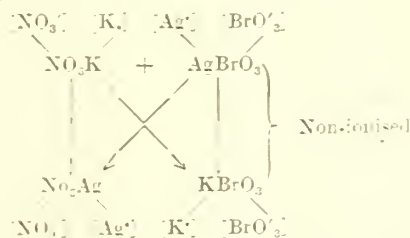
there must be a corresponding diminution of sodium: this can only be effected by reunion with the excess chloranions, and if the solution is saturated the sodium chloride so formed will be precipitated.

From expression (i) above, which may be rewritten:

$$[\text{Na}^+][\text{Cl}^-] = [\text{NaCl}]k$$

it follows that in a saturated solution, at any given temperature, since both k and the concentration of the non-ionised salt are invariables, the product $[\text{Na}^+][\text{Cl}^-]$ is also a constant, and is termed the solubility product.

Earlier, reference was made to the fact that the solubility of one substance may be greater in the presence of another even apart from any question of chemical reaction; the contrary effect may also be noted. When to a solution of A the addition of B causes A to fall from solution the effect is spoken of as salting out or precipitation. There is no fundamental difference in the applicability of these two terms, but it is usual to describe the effect as "precipitation" when the substance removed from solution as above, is ordinarily insoluble in the particular solvent used. Apart from special cases some of which will be referred to later, both increase and decrease of solubility as a result of mixture must depend on the operation of the Solubility Law, and from that law it follows that the addition of one compound will tend to diminish the solubility of another salt with which it has a common ion, we may also deduce as a corollary that the solubility of a salt may often be increased by the addition of a compound containing no common ion. Because of the comparative ease of experimental verification, a favourite illustration of the foregoing is the behaviour of silver bromate in the presence of nitration. If potassium nitrate be added to a concentrated solution of the silver salt, double decomposition occurs between a proportion of the molecules, and each of the four salts then present in solution, is partly ionised:—



both the potassium bromate and silver nitrate formed are more soluble than the portion of the original salt which they replace, and the solution is no longer saturated with silver bromate. The rule for "salting out" may be stated as follows:—If the product of the concentration of a pair of oppositely charged ions in a solution be in greater magnitude than the solubility product for the salt formed by the reunion of the ions, precipitation occurs.

(To be continued.)

New Books

Carter, W. G.—*Sales Counter Craft*. 8 in. by 5½ in. Pp. 214. 7s. 6d. Pitman & Sons, Ltd., Parker Street, London, W.C.2. [Described in the author's preface as "a straight book on the efficiency of the direct work of salesmanship itself. . . . In Chapter XX the reader is given the real secret of salesmanship."]

Findlay, G. M.—*Recent Advances in Chemotherapy*. 8½ in. by 5½ in. Pp. viii+532. 15s. J. & A. Churchill, 10 Gloucester Place, Portman Square, London, W.1. The greater part of the work is devoted to the study of the action of chemical agents in disease due to helminths, protozoa, and spirochetes, each chapter dealing with the chemotherapy of a specific disease. References to literature are appended. The book is illustrated with eleven text figures and four plates.]

Protection for Indian Chemical Industry

THE report of the Indian Tariff Board on the heavy chemicals and on magnesium chloride have been published. The Government of India have now introduced two Bills in the Assembly incorporating the recommendations of the Board for protecting the industry. The first Bill provides for a protective duty of 7 annas per cwt. on imported magnesium chloride and fixes the period of protection at seven years, at the expiry of which the question would be re-examined. The other Bill also imposes the same amount of duty on heavy chemicals, but for a shorter period (i.e., up to March 31, 1933, and pending further consideration of the possibility of reorganising the industry on an economic basis). Artificial fertilisers are for the present left out of account, as the protection scheme proposed for them by the Board consists of a bounty and therefore requires expert investigation. The only recommendation which the Government have not accepted is the proposal that power should be taken in the legislation to increase the duty by executive action to offset any fall in import prices. It is considered that such a step requires special justification, and the Government are not satisfied that its application to magnesium chloride is necessary, because the price of this chemical in India has been stable for the last three years, and what is more, the present price is not remunerative to the foreign manufacturers. The basis of the whole group of chemicals considered in the Tariff Board report is sulphuric acid. On account of the heavy freight on acids, the manufacture of sulphuric, hydrochloric and nitric acids has generally been carried on profitably in India. The absence of this natural protection, however, in the case of salts derived from sulphuric acid has prevented their manufacture except on a small scale. The total market in India (excluding Burma) for the chemicals with which the report deals is approximately 12,000 tons in terms of chamber acid on a 100 per cent. basis. The Tariff Board estimates that in the next few years the market may reach 16,000 tons, without taking into account the manufacture of artificial manures. According to the opinion of the Board, the case for protection of the industry rests primarily on its supreme national importance.

In the Board's opinion, the industry during the period of protection should attain an average annual production of 4,000 tons of chamber acid on a 100 per cent. basis. If this output is attained, it is estimated that the fair selling price of chamber acid at 100 per cent. will be Rs. 75 per ton. In the case of Epsom salts and zinc chloride, the specific duties proposed are equivalent to *ad valorem* duties of 44 per cent. and 34 per cent. respectively. The Board is satisfied that no appreciable burden will be thrown on industries thereby. On the other chemicals, the duties represent substantially the present level of revenue duties.

During the short period for which the protective duties are imposed, the Government of India do not propose that power should be taken to increase the duties by executive action. The Government of India will be prepared to discuss with representatives of the chemical manufacturing interests in India how the question of developing the industry can best be studied further. In the view of the Government of India a drastic reorganisation of the industry is indispensable, and one of the most important questions will be how that reorganisation is to be brought about.

ACTION PROPOSED TO BE TAKEN

In the circumstances stated, the Government of India have decided to take the following action:—(a) To propose the placing of protective duties on the following articles, and at the rates shown against each, as recommended by the Tariff Board in Appendix I to the Report:—

Names of articles	Rate of duty
1. Acid, hydrochloric	Rs. 2-9-0 per cwt. or 15 per cent. <i>ad valorem</i> whichever is higher.
2. Acid, nitric— Having a density at 15° C. of not more than 1.42 gm. per c.c. Having a density at 15° C. of more than 1.42 gm. per c.c.	Rs. 3-10-0 per cwt. or 15 per cent. <i>ad valorem</i> whichever is higher. Rs. 5-3-0 per cwt. or 15 per cent. <i>ad valorem</i> whichever is higher.
3. Acid, sulphuric	Rs. 1-4-0 per cwt. or 15 per cent. <i>ad valorem</i> whichever is higher. Annas 15 per cwt.
4. Alum, viz., ammonia alum, potash alum or soda alum.	
5. Aluminium sulphate or hydrated aluminium sulphate, including aluminoferric and alum cake— Containing not more than 0.010 per cent. of iron. Containing more than 0.010 per cent. of iron.	Annas 13 per cwt. Annas 9 per cwt.
6. Copper sulphate or hydrated copper sulphate.	Rs. 3 per cwt.
7. Magnesium sulphate or hydrated magnesium sulphate— Containing not more than 50.0 per cent. of magnesium sulphate. Containing more than 50.0 per cent. of magnesium sulphate.	Rs. 1-4-0 per cwt. Rs. 2-8-0 per cwt.
8. Sodium sulphate or hydrated sodium sulphate— Containing not more than 50.0 per cent. of sodium sulphate. Containing more than 50.0 per cent. of sodium sulphate.	Annas 6 per cwt. Annas 13 per cwt.
9. Sodium sulphide or hydrated sodium sulphide.	Rs. 1-7-0 per cwt.
10. Zinc chloride or zinc chloride solution.	Rs. 4-5-0 per cwt.

With the addition of a proviso that the duty on any of these articles shall in no case be less than the duty which would be charged if the articles were included in Part V of the Statutory Tariff Schedule. The existing duty on copperas must be retained unchanged in view of Article II of the Commercial Convention between India and France of 1903; (b) to propose that the new protective duties shall have effect until March 31, 1933, in the first place, pending further consideration and expert investigation of the superphosphate bounty scheme; (c) to introduce a Bill during the forthcoming session of the Legislature to give effect to these proposals.

Trade-Mark Applications

The figures in parentheses refer to the classes in which the marks are grouped. A list of classes and particulars as to registration are given in "The Chemist and Druggist Diary," 1931, p. 345.

(From "The Trade Marks Journal," September 9, 1931.)

"TARDIS": for disinfectants (2). By J. E. Southon & Co., 5 Leadenhall Street, London, E.C.3. 524,887.

"BALSAMIC EMULSION" on pictorial design surrounded by words "Peruvian Balsam Gum Myrrh Gum Benzoin Gum Storax Tolu" (wording disclaimed); for medicinal chemicals (3). By F. W. Hampshire & Co. (1927), Ltd., Sinfon Lane, Derby. 524,041.

"BERGOL": for cod-liver oil emulsion (3). By Nugden, 1 Terenure Road South, Terenure, Dublin, S.5. 519,653.

"RUTHMOL": for medicated fruits and cereals (3). By James Devane, 75 Harcourt Street, Dublin, C.2. 519,677.

"NEVERILL" on heraldic device including words "World Known Specialities for Health Youth and Beauty" ("Neverill" disclaimed); for medicinal chemicals (3). By Shadforth Prescription Service, Ltd., 63 Grove Road, Bow, E.3. 524,536. (Associated.)

"CAVOSEPT": for medicinal chemicals (3). By Cavendish Chemical Co. (New York), Ltd., 137 Regent Street, London, W.1. 524,656. (Associated.)

"CISP": for ointments (3). By The Cisp Company, 36 Foxhall Road, Timperley, Cheshire. 524,721.

"HOMOLOIDS": for all goods (3). By Thomas E. Harvey, 2 Stanley Road, South Acton, W.3. 525,024.

Trade Report

Where possible scales of prices of chemicals are given for bulk down to small quantities. Prices recorded for crude drugs, essential and fixed oils and coal tar products are for fair sized wholesale quantities. Qualities of chemicals, drugs, essential and fixed oils, etc., vary, and selected brands or grades would be at higher values

28 Essex Street, W.C.2, October 1

ALTHOUGH the markets have been confusing and difficult to define, even from hour to hour, there is no doubt that a very good volume of business has been transacted, and most of it has been in genuine consuming orders. The advances in prices are no more than is comparable with the fall in the international value of sterling. Spot business has been going on steadily, and, so far as imported goods are concerned, a system of rationing to consumers has been general. Where forward business is concerned importers find they are no longer dealing in merchandise, but actually in rates of exchange. Owing to the hourly movements of the latter shipment orders have been difficult to put through, yet a certain amount has been done. In pharmaceutical chemicals business has been moving quite briskly. Prices for imported products to arrive have mostly advanced in accordance with the fall in the international value of sterling and, in consequence, competition in many lines has for the time being largely disappeared. Home makers' prices for bismuth salts, mercurials, iodides, borax products, and bromides, have advanced. The position is gradually clearing, and a few days of steadiness in the rates of exchange should permit the resumption of business more or less on normal lines. In crude drugs prices show a further all-round advance. Mercury is now sold by the Spanish-Italian group on a gold basis, making prices much dearer. Tragacanth is dearer, and has been in brisk demand. After the public auction last week a number of lots were bought privately at from five per cent. over the limits mentioned at the sale. Menthol is again dearer and senna is firmer, while senega remains comparatively neglected. Japanese camphor (slabs and flowers) has been practically cleared on spot. In essential oils business on spot has been brisk and values for goods available are now generally advanced to a level that is nearly equivalent to replacement costs. The shipment market is most difficult to define. Quotations are generally in foreign currencies and are therefore unstable. Some shipment business has been done with prices on average about twenty-five per cent. up on former rates. There has been good spot business for Japanese demethylised peppermint oil and prices are dearer. Home makers' prices for industrial chemicals show but little change, while imported materials, such as potash salts, have all advanced. Business has been good. In coal tar products conditions show but little change, and this market should not be affected by prevailing conditions. Fixed oils are much brighter, and prices in all cases are dearer. A disquietening feature of the markets is the tendency on the part of some foreign shippers affected by rates of exchange to decline to ship goods contracted for prior to the de-standardisation of sterling. Norway is now off the gold standard, and at the moment there is a persistent rumour in Mining Lane of the possibility of two other important Continental countries taking similar action in due course. Prices are still quoted without engagement.

Exchange Rates on London

The following is a list of the chief Continental and other exchange rates at the opening on Thursday morning:—

Centre	Quoted	Par.	Oct. 1	Value of the £
Amsterdam ..	Fl. to £	12.107	9 1/4	16/0
Brussels ..	Mks. to £	20.43	16 1/2	16/5
Brussels ..	Belga to £	35	28	15/11 1/2
Copenhagen ..	Kr. to £	18.159	17 1/2	19/6 1/2
Lisbon ..	Esc. to £	110	110	20/-
Madrid ..	Ptas. to £	25.221	43 1/2	34/3
Milan ..	Lire to £	92.46	76 1/2	16/6
Montreal ..	Dol. to £	4.86 1/2	4.57 1/2	18/9 1/2
New York ..	Dol. to £	4.86 1/2	3.32	16/1 1/2
Oslo ..	Kr. to £	18.159	18	19/9 1/2
Paris ..	Fr. to £	124.21	99 1/2	15/11 1/2
Prague ..	Kr. to £	164.25	130	15/10 1/2
Stockholm ..	Kr. to £	18.159	17 1/2	18/11 1/2
Vienna ..	Sch. to £	34.58 1/2	30	17/4
Zurich ..	Fr. to £	25.221 1/2	20	15/10 1/2

Bank rate 6 per cent.

Pharmaceutical Chemicals, etc.

CONDITIONS in this market continue irregular and all quotations are made without engagement. Continental offers are coming to hand, but are almost invariably in foreign currency. With hourly fluctuations in rates of exchange such quotations are of little use. Home makers' prices for some products have been advanced. Convention scales of sales prices are mostly nominally unchanged, with the Continental seller off the market and the home maker selling to genuine consuming quarters at the old rates. There does not appear to have yet been sufficient time to consider the question of Convention prices, and for the time being they are mostly nominally unchanged. Business has been moving on spot, the majority being genuine consuming business, with little or no evidence of speculative buying. All quotations given are without engagement.

AMIDOPYRIN.—Spot values are now in the region of from 20 per cent. up on the former rates of 11s. 11d. to 12s. 4d. per lb. for powder, with crystals 1 1/2d. per lb. extra.

ASPIRIN.—Very considerable business is reported at about the old rates. There is now a disinclination to contract any further important business at these prices. The market is nominally unchanged. Home trade: ten cwt., 2s. 7d.; five cwt., 2s. 8d.; one cwt., 2s. 8 1/2d.; 28 lb., 2s. 9d.; 14 lb., 2s. 10d.; 7 lb., 3s.; 1 lb., 3s. 4d. per lb. Export to Colonies and British Possessions: ten cwt., 2s. 7d.; five cwt., 2s. 8d.; one cwt., 2s. 8 1/2d. per lb., f.o.b.; less than one cwt., 2s. 9d. per lb., ex works.

BARBITONE is now worth about 8s. 3d. to 8s. 6d. per lb.; spot stocks are small; forward, nominal.

BENZOIC ACID (B.P.) is nominally unchanged: quantities, ex works, 1s. 10d.; spot parcels, 1s. 10 1/2d. to 1s. 11d. per lb., ex store.

BISMUTH SALTS.—Convention prices were advanced on September 25 from 5d. to 9d. per lb., and a further advance was notified on September 28 of 1d. to 3d. per lb. These prices are quoted without engagement and may be considered to be nominal.

	8 lbs. and under 28 lbs.	28 lbs. and under 1 cwt.	Not less than 1 cwt.
	Per lb.	Per lb.	Per lb.
	s. d.	s. d.	s. d.
Carbonate ..	8 0	7 6	7 3
Citrate ..	9 1	8 7	8 4
Nitrate cryst. ..	6 1	5 7	5 4
Oxide ..	11 1	10 7	10 4
Salicylate ..	8 4	7 10	7 7
Subchloride ..	10 8	10 2	9 11
Subgallate ..	8 3	7 9	7 6
Subnitrate ..	7 3	6 9	6 6

A rebate of 3d. per lb. will be allowed on sales of not less than two cwt. (either for prompt delivery or on contract), provided delivery is completed or paid for within three months. Liqueur bismuthi, P.B., in W-qts., 1s. 2d. per lb.; in 6 W-qts., 11 1/2d. per lb.; in 12 W-qts., 10d. per lb.; in 36 W-qts., 9 1/2d. per lb.

BORAX (B.P.).—Prices have been advanced to the following figures: crystals, £23 10s.; powder, £24; extra fine, £25 per ton, in minimum one-ton lots.

BORIC ACID (B.P.).—Prices have been advanced to the following figures: crystals, £34; powder, £35; extra fine, £37 per ton, in minimum one-ton lots.

BROMIDES.—It appears that the cheap prices from the Continent have been withdrawn. Home makers notify the following scale, without engagement: potassium, B.P., crystals and granular, five cwt. and over, 1s. 3d.; one cwt., 1s. 4d.; small lots, 1s. 7d.; sodium, B.P., five cwt. and over, 1s. 5d.; one cwt., 1s. 6d.; small lots, 1s. 9d.; ammonium, five cwt. and over, 1s. 6d.; one cwt., 1s. 7d.; small lots, 1s. 10d. per lb., and slightly less for large bulk quantities.

CALCIUM LACTATE is nominal at the old rates and tends to advance; spot, 1s. 2 1/2d. to 1s. 3d. per lb. as to quantity.

CHLORAL HYDRATE.—Home makers' prices nominally unchanged; foreign material not quoted: duty-paid crystals, 2s. 11½d. to 3s. 1½d. per lb. as to quantity and packing.

CITRIC ACID (B.P. CRYSTALS).—Foreign material on spot is now mentioned in the region of 1s. 1d. per lb., less 5 per cent., carriage paid. The forward position is nominal. British makers quote 1s. 0½d. per lb., less 5 per cent. discount, without engagement.

CREAM OF TARTAR.—Shipment quotations are all subject to confirmation: foreign material on spot is nominal. British makers quote 99 to 100 per cent. at 95s. per cwt., less 2½ per cent. discount, without engagement.

GUAIACOL CARBONATE would be about from 20 per cent. up on the former prices of 5s. 3½d. to 5s. 7½d. per lb., as to quantity.

HEXAMINE.—The market is irregular, with values in the region of 2s. per lb., although it is doubtful if this price has been paid, except for small parcels.

HYDROQUINONE.—Convention prices are nominally unchanged; no forward offers from the Continent: ten cwt., 3s. 3½d.; five cwt., 3s. 4½d.; two cwt., 3s. 5½d.; one cwt., 3s. 5¾d.; 56 lb., 3s. 6¾d.; 28 lb., 3s. 8¾d.; 14 lb., 3s. 10½d.; 7 lb., 4s. 0½d.; 1 lb., 4s. 7d. per lb., carriage paid. Quoted prices are subject to acceptance.

IODIDES.—Home makers notify advances in their prices as given hereunder. All quotations are given without engagement. Potassium iodide: 7 lbs., 23s. 5d. per lb.; 14 lb., 22s. 5d. per lb.; 28 lbs., 22s. 2d. per lb.; 112 lbs., 21s. 11d. per lb. Iodoform: 7 lbs., 23s. 6d. per lb.; 14 lbs., 23s. 9d. per lb.; 28 lbs., 23s. 3d. per lb. Iodine, resublimed: 7 lbs., 26s. 6d. per lb.; 14 lbs., 26s. per lb.; 28 lbs., 25s. 6d. per lb.; 112 lbs., 25s. 3d. per lb. Sodium iodide: 7 lbs., 25s. 9d. per lb.; 14 lbs., 25s. 3d. per lb.; 28 lbs., 24s. 9d. per lb. One cwt. assorted quantities of the above four iodine preparations may be taken in one delivery at minimum prices.

LACTIC ACID (B.P.).—Continental offers withdrawn from the market; prices are nominally unchanged: one to 99 ks., 1s. 5d.; 100 to 499 ks., 1s. 4½d.; 500 to 999 ks., 1s. 4d.; 1,000 to 4,999 ks., 1s. 3½d.; and 5,000 ks. and over, 1s. 3d. per lb., in 50 ks. carboys, carriage paid.

MERCURIALS.—Makers have notified two advances in prices this week. The following are current values, and are issued without engagement:—

	Under 112 lb.	Not less than 112 lb.
	Per lb. s. d.	Per lb. s. d.
Ammoniated lump, B.P. (white precip.)	7 6	7 5
powder	7 7	7 6
Bichloride lump, B.P. (corros. sub.)	7 6	7 5
powder, B.P. or granular	6 9	6 8
(chloride, B.P. (calomet))	8 1	8 0
Red oxide cryst., B.P. (red precip.)	9 5	9 4
levig., B.P.	8 11	8 10
Yellow oxide, B.P.	8 8	8 7
Persulphate white, B.P.C.	7 10	7 9
Sulphide black (hyd. sulph. cum sulph. 50 per cent.)	8 3	8 2

Special prices for larger quantities. Previous notification of price alteration was on July 6.

METHYL SALICYLATE (B.P.).—An advance in prices is recorded and are subject to confirmation; one ton and over, 1s. 4½d.; smaller quantities, 1s. 5½d. per lb.

METHYL SULPHONAL would be about 20 per cent. up on the former rates, with the shipment position nominal.

MILK SUGAR.—Continental material is now quoted without engagement at about 47s. 6d. per cwt., in two-cwt. cases.

PHENACETIN.—Dealers' prices have advanced about 20 per cent. on former rates; forward quotations are nominal. Business has been brisk on spot. The old rates were: crystals, ten cwt., 3s. 8d.; five cwt., 3s. 9d.; two cwt., 3s. 9½d.; and less, 3s. 10½d. per lb., with powder 1½d. per lb. extra.

PHENAZONE.—Good spot business has been done at near the former prices, but dealers have now advanced their rates about 20 per cent. Shipment quotations are in foreign currency and alter from hour to hour.

POTASSIUM SULPHOGUAIACOLATE is dearer on spot at about 20 per cent. up on the former rates of 3s. 2½d. per lb., in cwt. lots; shipment market is nominal.

QUININE SULPHATE.—Quotations for shipment are now made in Dutch guilders, with the spot value for 1,000-oz.

lots about 2s. 3d. per oz.; other salts advanced in proportion.

SALICYLIC ACID (B.P.).—There is no change reported in home makers' prices: one ton, 1s. 5d.; ten cwt., 1s. 5½d.; five cwt., 7s. 6d.; one cwt., 1s. 6½d.; small parcels, up to 2s. per lb.

SODIUM SALICYLATE (B.P.).—Convention prices are nominally unchanged; Continental material is not quotable for shipment. Home makers' prices are stated to be unchanged, but without engagement. Home trade: powder, two tons, 1s. 10d.; one ton, 1s. 10½d.; ten cwt., 1s. 11d.; five cwt., 1s. 11½d.; one cwt., 2s.; 28 lb., 2s. 1d.; 14 lb., 2s. 3d.; 7 lb., 2s. 4d.; 1 lb., 2s. 5d. per lb., with crystals 1d. per lb. extra.

TARTARIC ACID (B.P.) CRYSTALS.—Foreign material on spot is quoted at about 11½d. to 1s. per lb., less 5 per cent., ex wharf. Continental quotations are nominal. British makers quote 1s. 0½d. per lb., less 5 per cent. discount, without engagement.

VANILLIN.—The market is very steady, with all former cheap sellers withdrawn: ex guaiacol, one ton, 13s.; ten cwt., 15s. 3d.; five cwt., 15s. 6d.; three cwt., 15s. 9d.; one cwt., 14s.; 56 lb., 14s. 3d.; 28 lb., 14s. 6d.; 14 lb., 14s. 9d.; less, 15s. per lb.; ex clove oil, 14s. 6d. to 16s. 6d. per lb., as to quantity, from one ton to less than 14 lb. This morning it is reported that prices for ex guaiacol and clove oil have been advanced 1s. 3d. and 1s. 6d. per lb., respectively, for all quantities.

Crude Drugs, etc.

ACTIVE markets are reported in the majority of these products and spot values have generally advanced, there being but few exceptions. Shipment values are a matter of rates of exchange, with affected products up by about 25 per cent. Considerable business was done after the drug auction last Thursday at prices from 5 per cent. over the limits mentioned at the sale.

AGAR-AGAR is firm at the rates now quoted on the spot; business has been fair: Kobe No. 1, 4s. 6d.; No. 2, 4s. 3d. per lb.; Yokohama, 4s. 3d. per lb., spot. The shipment market is entirely nominal.

Kobe production during December 1930 and January 1931 totalled 1,852,000 lb. Exports for period April-June 1931 totalled 748,818 lb., valued at \$464,500, compared with 1,334,377 lb. (\$852,000) during January-March 1931.

BALSAMS.—If available, *Tolu* on spot is nominal at 2s. 10d.; Canada, 5s. per lb., without engagement.

CAMPOR.—There has been very heavy business in this market and late reports indicate that except for some lots of tablets the market has been cleared: spot, slabs and flowers, nominal, none available; ¼-oz. tablets, fully 3s. per lb. Shipment is nominal. English refined camphor has been advanced 3d. per lb. and is now quoted without engagement: B.P. flowers, 1 cwt., 2s. 11d.; 28 lb., 3s.; small lots, 3s. 1d. per lb.; special prices for larger quantities on contract. Transparent tablets at usual differences.

Japanese exports of camphor for the period January-June 1931 totalled 1,352,600 kin, valued at 1,773,118 yen, compared with 9,626,000 kin (1,431,497 yen) during the same period of 1930. The chief destinations during 1931 were America, 684,900 kin; India, 234,400 kin; France, 48,500 kin; U.K., 47,800 kin; Germany, 24,200 kin; and Australia, 30,900 kin; and in 1930 America, 397,100 kin; India, 176,800 kin; France, 26,000 kin; U.S., 15,100 kin; Germany, 36,800 kin; and Australia, 43,100 kin.

CARDAMOMS.—Firm, bold Ceylon-Mysore, 5s. to 5s. 3d.; mediums, 3s. 6d. to 4s. 6d.; small mediums, 2s. 6d. to 3s.; smalls, 2s. to 2s. 6d.; green Alleppy are quoted at 2s. to 2s. 1d., spot; shipment still quoted at 2s. 3d., c.i.f.; Bombay seeds, 2s. 11d., spot.

CASCARA SAGRADA.—The shipment market is nominal: 1930 pecl, on spot, 56s.

CLOVES.—The market shows a further advance and is very steady; business has been better: Zanzibar, spot, 8½d.; shipment, September-November, 7½d.; November-December, 6½d., c.i.f.; Madagascar, spot, 8½d.

The landings of Zanzibar in London during the week ended September 26 were 300 and the deliveries 12, leaving a stock of 909, against 463 in 1930. From January 1 to date, landings of Zanzibar have been 1,841, against 6,182 in 1930, and the deliveries 1,951, against 5,726 in 1930. Landings of Madagascar for the week ended September 26 were nil and the deliveries 125, leaving a stock of 1,009, against 1,317 in 1930. Landings of Madagascar this year to date have been 2,320, against 4,924 in 1930, and the deliveries 2,217, against 3,620 in 1930.

COCONUT (DESICCATED).—Prices show a further slight advance and the market is steady; business good: spot, fine, 22s.; medium, 23s. 6d.; shipment, halves, October-November, 20s. 6d., c.i.f.

COD-LIVER OIL.—Business has been sustained and the market is firm. Prices are subject to exchange fluctuations; finest Lofoten non-freezing medicinal oil are: spot, 130s., and shipment 120s., c.i.f. per barrel. Some brands may be slightly cheaper. Uncasiness has been caused by intimations from some Norwegian shippers that they will be unable to ship against old contracts made at the time sterling was standardised unless they are paid in sterling on that basis. Norway has now moved off the gold standard, and this should relieve the position. Shipments up to September 13 totalled 53,062 barrels, against 57,017 barrels at this time last year.

GINGER.—The market is firm at the higher price of 29s. for West African.

GUM ACACIA.—Good business has been done: Kordofan, cleaned sorts, spot 47s. 6d., shipment 42s. 6d. to 45s., c.i.f.; natural, spot 45s., shipment 40s. to 42s. 6d.; bleached, spot, 100s. to 110s., all without engagement.

HONEY.—A good deal of the offerings at last week's auction have been sold at 2s. to 3s. over the auction limits. Present values: Jamaica pale liquid, 35s.; palest set, 28s.; amber liquid, 22s. to 25s.

HYDRASTIS.—Spot is offering at 5s. 6d. per lb.; shipment nominal.

IPCACUANHA.—A moderate business has been done and prices for Matto Grosso on spot are steady at 6s. 3d. to 6s. 6d. per lb.

MENTHOL.—Further appreciation in values is recorded, with spot at about 15s. per lb. The shipment figure is mentioned at about 13s. 10½d. to 14s. per lb. Considerable business has been done.

Japanese exports of menthol crystals for the period January-June 1931 totalled 159,872 kin, valued at 1,304,277 yen, against 182,291 kin (1,632,639 yen) during the same period of 1930. Destinations of 1931 shipments: America, 85,800 kin; India, 12,900 kin; France, 7,300 kin; U.K., 3,000 kin; Germany, 1,800 kin. Destinations of 1930 shipments: America, 98,400 kin; India, 14,600 kin; France, 8,500 kin; U.K., 4,700 kin; Germany, 2,200 kin.

MERCURY.—The Spanish-Italian producers notify they are now basing their prices for this country on the gold standard; shipment is now at £20 16s. 8d. per bottle, f.o.b., and their spot price is £21 per bottle.

PEPPER.—The market shows a further advance on the week and business has been active; the tone latterly is not so strong: Lampong, spot, 6½d.; shipment, August-October, 6d.; October-December, 6d., c.i.f.; Tellicherry, January-March, 61s., c.i.f.; Alleppy, January-March, 58s., c.i.f.; white Muntok, spot, 9½d.; shipment, August-October, 8d.; October-December, 8d., c.i.f.

PIMENTO is dearer on spot as quoted at 3½d. per lb., and shipment has advanced to 26s., c.i.f.

RUBBER.—After some fluctuations during the week the market is about level and now rather quiet. U.K. stocks total 134,834 tons, compared with 117,994 tons a year ago. No. 1 standard ribbed smoked sheet, spot, sellers, 2½d.; October, 2½d.; November, 2½d.; December, 2½d.; January-March, 2½d.

SEEDS.—**ANISE.**—Spanish, 47s. 6d.; Russian, 31s. per cwt. on the spot. **CANARY** remains firm: Mazagan, spot 13s. 6d. and 12s. c.i.f.; Tangier, spot 12s. 9d. and 11s. 6d. c.i.f.; Kenitra, spot 12s. 6d. and 11s. 3d. c.i.f. **LINSEED.**—No demand: Mazagan is 14s. and Morocco 13s. spot.

SENEGA.—Spot is offering in the region of 1s. 11d. per lb., but does not attract much attention. Shipment quotations are about 36 cents per lb. c.i.f.

SENNA.—Good business has been done; the market is firm at the advanced rates recorded: Alexandrian, finest selected hand-picked pods, 5s. 6d. to 6s.; seconds, 3s. 6d. to 4s.; mediums, 2s. to 2s. 6d.; ordinary manufacturing, 5d. to 6d. per lb.; Tinnevely ordinary f.a.q. pods, 5½d. to 5½d.; hand-picked, 6½d. to 7d. per lb.; manufacturing leaves not available.

TRAGACANTH.—Market has been active and importers have increased their prices on all saleable goods. Stocks are depleted: fine to medium grades are £3 to £4 per cwt. up on former rates.

WAX (VARIOUS).—Prices for these products show considerable advances: **JAPANESE**, on spot, 55s.; **CARNAUBA**, fatty grey and chalky grey, 72s. 6d.; medium yellow, 145s.; fine yellow, 172s. 6d. per cwt., spot. **CANDELLA** is steady at 65s. to 67s. 6d. per cwt.; **SPERMACEIN**, 9½d. per lb., spot; **PARAFFIN**, 25s. to 34s. per cwt., as to melting point; **CERESINE**, 55s. to 90s. per cwt., as to colour and melting point; **BEES'**, bleached, discs, £7 15s.; slabs, £7 12s. 6d.; yellow refined, £6 12s. 6d.; yellow crude, £5 15s. per cwt., spot, all without engagement.

Essential Oils

A VERY fair volume of spot business has been transacted this week, with values gradually moving up to somewhere near replacement costs. Shipment quotations are practically all in foreign currencies and are, therefore, nominal on account of the continual variation in rates. On average shipment values in sterling are advanced about 25 per cent. Japanese dementholised peppermint oil has been in active demand at higher rates. All quotations without engagement.

ALMOND.—The spot price for sweet oil is from 2s. 1d., with shipment nominal at 1s. 11d.. Bitter, genuine s.a.p., is about 7s. 9d.. spot.

ANISE (STAR).—Market has been active and is firm at the rates quoted on spot; shipment is nominal: "Red Ship," in leads, 2s. 6d.; in tins, 2s. 3d.; in drums, 2s. 1d., spot.

BERGAMOT.—There has been a very fair consuming business moving, with spot prices gradually moving up from 8s. 6d. to 8s. 9d., and up to 9s. per lb. for small lots. The shipment market is nominal at about 7s. 9d., c.i.f. on current exchange rates.

BOIS DE ROSE.—Spot Cayenne is now about 6s. 6d. per lb.; the shipment market is nominal.

CARAWAY.—Dutch double-distilled on spot has advanced to about 7s. 3d., and crude to 6s. 9d. per lb. Shipment market nominal.

CASSIA on spot has been selling in the region of 3s. 3d. and now up to 3s. 6d. per lb. is asked; shipment market nominal.

CINNAMON LEAF is firmer, with spot from 3s. 6d. per lb.; the shipment quotation is about 3s., c.i.f.

CITRONELLA.—Fair business is reported: Java on spot is now firm at 2s. 10d. per lb. The shipment market is nominal.

GERANIUM.—The market for Bourbon is much firmer on spot, with the price now fully 19s. per lb. The shipment market is entirely nominal. Algerian is also firm and nominal.

JUNIPER BERRY (B.P.) is dearer on spot at 5s. 4d. to 5s. 8d. per lb. as to quality. Shipment nominal.

LAVENDER.—All quotations for French have advanced about 1s. 6d. per lb.; 50 to 52 per cent., 10s. 9d.; 40 to 42 per cent., 9s. 8d.; 38 to 40 per cent., 9s. 6d.; 36 to 38 per cent., 9s. 3d.; 30 to 32 per cent., 8s. 9d. per lb., to arrive, without engagement.

LEMON.—Sicilian on spot is quoted from 4s. 3d. to 4s. 6d. per lb. The shipment quotation is nominal at about 25 per cent. advance on former rates. Californian lemon oil on spot is offering at 2s. 8d. per lb., in drums.

ORANGE.—Californian orange oil on spot is quoted at 4s. 2d. to 4s. 3d. per lb. in 100-lb. lots.

PALMAROSA is dearer on spot at about from 9s. upwards, and shipment is at present quoted at 8s. 6d. c.i.f., without engagement.

PEPPERMINT.—The market for Japanese dementholised has been active and considerable business has been done. Spot is now quoted up to 4s. 10½d. per lb., while shipment is quoted at 4s. 1½d. for October-December and 4s. for January-March. American oil on spot is about 9s. 6d., with shipment nominal.

Exports of Japanese dementholised peppermint oil for the period January-June 1931 totalled 178,600 kin, valued at 432,944 yen, against 234,700 kin (784,713 yen) during the same period of 1930. Chief destinations during 1931 were Germany, 39,900 kin; U.K., 20,500 kin; and France, 16,500 kin; and in 1930 Germany, 4,700 kin; U.K., 11,000 kin; and France, 40,400 kin. Stocks of crude peppermint oil in Japan at June 30 1931 estimated at 195,000 lb. The menthol crop for 1931 is estimated at 1,275,000 lb.

PETILGRAIN is quoted on spot 5s. 3d. per lb.

SPEARMINT is quoted on spot at the dearer price of 10s. per lb.; the present shipment offer works out at about 8s. to 8s. 6d. per lb.

SPIKE is much dearer on spot, with holders asking about 2s. 9d. per lb.; shipment offers are nominal.

The following arrivals have taken place from the countries indicated during the period September 24 to 30 inclusive: Cajaput (Nthlands.) 2 dms.; camphor (Jpn.) 2 dms.; cinnamon leaf (Ceylon) 1 dm.; citronella (Java) 4 dms.; eucalyptus (Spn.) 60 cs.; lavender (Spn.) 4 dms.; lemon (Nthlands.) 1 cs.; lime (Jam.) 1 cs.; orange (Fr.) 39 cs.; palmarosa (Ind.) 1 pot; rosemary (Spn.) 2 dms., (Fr.) 1 cs.; sandalwood (Ind.) 4 cs.; saffraas (U.S.) 4 cs.; spearmint (U.S.) 9 cs. 1 dm.; various (U.S.) 7 cs., (Fr.) 1 pch., 4 cs., 1 dm., (Ind.) 10 cs., (Spn.) 3 cs.

Correspondence

Letters should be written on one side of the paper only. Correspondents may adopt an assumed name, but must in all cases furnish their real name and address to the Editor.

Pharmacy Bill in Saorstát Éireann

SIR,—When the retiring members of the Council of the Pharmaceutical Society of Ireland issued their joint programme they stated that they are "opposed to reciprocity with Great Britain or Northern Ireland." The seven new candidates take up the same attitude, but they are even more extreme in their views; they are so timid of heart as to believe that "their future would be impossible if twenty-one members of the Council have power to authorise chemists from other countries to practise pharmacy in our State." Have they not the courage to think their abilities of such a high order that they could successfully compete with the stranger within their own gates? Where Mr. Nugent puts it concisely by saying that "we seek powers to grant reciprocity to any country provided it benefits Free State pharmacists," he propounds a "heads I win, tails you lose" proposition that would be difficult to induce anyone to accept. This much-discussed measure is one that must eventually fructify through the desire of Irish licentiates to go abroad. It is feasible and right that their qualifying body should make reciprocal arrangements with other societies. Experience has shown in all cases of pharmaceutical reciprocity that this "flooding and swamping" has existed only in the fearful imagination of the timid and "stay at home." The real basis of reciprocity is an equivalent standard in training and professional examinations. Mr. McKane does well to remind the chemists of the Saorstát Éireann that to be "a little bit adventurous in these matters is a sign of health." He also gives a timely reminder when he says the prospects of reciprocal arrangements between Ireland (North and South) and any other country are dependent upon "the first step of reciprocity with Great Britain." This was the experience of Northern Ireland.—Faithfully yours,

COURAGEOUS, M.P.S.I. (29/9).

SIR,—Please allow me a little of your valuable space to place a few matters of interest before all pharmacists, whether members of our organisation or not. I notice in the election manifesto of the retiring members of the Council a few remarks which are not a correct statement of facts. One of these gives the information to readers that they and their friends on the Council were the only persons who opposed the wicked clauses in the Veterinary Bill in its passage through the Dáil. I might point out that our Committee had considered those clauses about two months before the Council broke silence on them; we instructed our direct representatives in the Dáil to oppose them, and if you read the reports you will see that the Labour men offered the greatest opposition. We even approached in person several individual members on our behalf, and they also voted against those clauses. But, taking our headline from our president, we did not, either, rush into print, we did the work underground, and did it well. Again, in connection with the Pharmacy Bill, it is stated that they will give due consideration to the suggestions which our deputations placed before them, where the said suggestions are found practical. Very good, what about our suggestions on reciprocity, registered druggists, limited companies, apprenticeship, etc.? Again, the president, in a letter to your paper last week, referred to these deputations from members and assistants, and said that these gentlemen overlooked more serious questions, such as wholesale trading, registered druggists, poison laws, etc. Did he not read the copy of the suggestions which we sent him? If he did, he would see that we missed none of these serious questions; and for his and anyone's information, I might inform him that those suggestions were placed in the actual hands of the Minister of

State responsible, and we have a communication from him stating that our views will be considered in the drafting of the new Bill. So I hope this will make clear to all that our organisation is not asleep where the future of pharmacy is concerned; we fight not alone for the improvement of our conditions as workers in pharmacy to-day, but we look ahead to the day when we will be owners of pharmacies and custodians of our noble profession in the Council chamber. Our organisation extends to all Ireland, and can claim at the moment a membership equal to the Pharmaceutical Society's. So I maintain that we are entitled to a hearing, and I ask all our members who have a vote at the coming elections to see that it is given to candidates whose views are nearest to our own. There is a group of seven new men going up, and they have given us their word that they will support our views if elected. . . . "Pharmacy, a trade for pharmacists only."—Yours truly,

EUGENE MACMAHON, M.P.S.I.,
Vice-President, Irish Chemists' Assistants'
Organisation.

Dublin.

SIR,—May we congratulate Mr. Nugent on his "statesmanship" in so timing what he claims as a reply to the questions and suggestions of our deputation that it should appear (*C. & D.*, September 26, p. 410) on the eve of the election. If an immediate answer cannot be given to members of a deputation, the usual course adopted is to send a written reply to the headquarters of the organisation concerned, or publish the verdict in some official journal in a fair and regular manner. Why did Mr. Nugent not reply officially on behalf of the Council at an earlier date? Is there any reason why the Council should not have sent a written answer to the secretary of our committee? Mr. Nugent's letter is not an official reply: it is misleading, and we consider it merely election propaganda on behalf of his colleagues—the retiring councillors. Mr. Nugent writes: "I would like to reply to the points raised in the letter published over the names of seven members in the *C. & D.* September 12" (p. 350). To begin with, the points were not raised in the *C. & D.* They were put forward by our deputation to the Council in July. The letter signed by our seven members stated this fact quite clearly. The one subject reported in the *C. & D.* concerned our suggestions in connection with contraceptives. Mr. Nugent gave a definite undertaking on behalf of the Council that this matter would be dealt with, and hence we regarded the affair as closed. Mr. Nugent, however, returns to the subject, and his account is not quite accurate. The first move in connection with contraceptives was made over three years ago by a member of our deputation. Later Mr. Nugent, in conjunction with some of his fellow councillors, took more definite steps, but the effort was not successful. While we appreciate fully Mr. Nugent's splendid attitude and magnificent work in connection with the matter, we must not overlook the fact that credit for bringing the matter officially before the Council must be given to the deputation from the Assistants' Union. Our deputation followed, and the result is, as we all know, "very satisfactory."

Reciprocity.—We consider it unnecessary to write further on this subject. In effect Mr. Nugent and his colleagues say: "Give the Council alone power to deal with this matter—we will not do anything rash." We (the opposition candidates) say most emphatically "No—we will not agree to giving the Council such power." It is far too dangerous.

Corporations.—Mr. Nugent says he is in agreement with the suggestions regarding nationality and permanent residence of shareholders. But he ignores our most

important proposal for dealing with companies, which is that every member of the board must be a qualified chemist.

Agricultural and Horticultural Poisons.—Our proposals are in advance of those of Mr. Nugent and his colleagues. We deem it imperative that the Council should assist in the formation of county or provincial associations to be ready when necessary to send deputations to official quarters.

Apprentices.—We are not inclined to quarrel with the suggestion that this matter should be decided by regulation rather than by statute.

Anyone in doubt about any other part of our policy has only to read the agenda for the annual meeting. In particular we could call attention to the motion calling for a "full-dress debate" on the proposed Pharmacy Bill. To put it bluntly, we have not "funked" raising a discussion on any subject. . . . All our election circulars and communications to the Press have been signed. We make no claim to be anyone but our own selves—a body of independent chemists, all proprietors and all intensely interested in everything that concerns the welfare of pharmacy.

Yours, etc.,

F. J. BARRAGRY, M.P.S.I.
C. J. CREMEN, M.P.S.I.
JOHN GLEESON, M.P.S.I.
W. J. MCKNIGHT, M.P.S.I.
J. A. O'ROURKE, M.P.S.I.
M. J. PARKES, M.P.S.I., P.C.
EUGENE RONAGHAN, M.P.S.I.

Dublin.

Northern Ireland Council Election

SIR,—Now that more than the required number of candidates has come into the field, an election for the Northern Ireland Council is assured to us at last. The appearance of a fifth candidate is in itself condemnatory of the North Irish Pharmacists' Association's policy of selecting candidates. At an unrepresentative, even if special, meeting this is almost tantamount to Council election. Some of the election addresses I have read differ mainly in the name of the candidate, otherwise the policy is very similar. There is one necessary reform for which, so far, I have not noticed any candidate declaring himself, the restriction of the sale of pharmaceutical products to pharmaceutical chemists (and druggists). The candidate who gives this slogan a prominent place in his election campaign can rest assured of the solid support of his fellow chemists. No doubt it would be extremely difficult to obtain legislation to enforce this ideal; but pressure by the Council on the firms or individuals supplying grocers and small shops with the packed lines, whose sole source of distribution to the public should be through pharmacy and its devotees, would have the effect of discouraging this source of trading, and would achieve two desirable aims at one stroke—the raising of the status of pharmacy and the betterment of trade.—Yours faithfully,

M. P. S. N. I. (29/9).

Agricultural Poisons in Northern Ireland

SIR,—No doubt the president of the Pharmaceutical Society of Northern Ireland, in his address at the forthcoming annual meeting of the Society, will make some reference to the Council's record in its endeavour to restrict the distribution of agricultural and horticultural poisons to chemists. It was made fairly clear at the time of forming the Northern Society that it was the Ministry's intention to have all poisons distributed by qualified persons, as far as possible. The number of licences granted by the county councils show that success has not always attended the council's efforts. The weak spot in the Council's armour is very probably the argument of insufficient stocks held by chemists. Every chemist has not enough capital to enable him to purchase heavy stocks, but it can be understood that this weakens the Council's case. A system of co-operation instituted by the Council through the North Irish Pharmacists' Association, or the Ulster Retail

Drug Trade Association, would be a wonderful support for the Council in the future. The scheme I have in mind is based upon the utilisation of an established chemist's shop as a depot for sheep dips and other poisons in demand, other chemists in the same area to draw upon this stock at wholesale prices, less a small charge for overhead expenses. If the Home Office in Belfast could be assured that adequate supplies of the poisons required by the district were held by qualified chemists the granting of these county council licences would be well on the road to extinction.

Yours faithfully,

PRO BONO PUBLICO (30/9).

Supplies for Welfare Clinics

SIR,—My letter in your issue of September 19 was not actuated by envy of the business transacted at welfare clinics, but was directed against the increasing abuses in the sale of chemists' goods for which these rate-supported institutions are responsible, and I am glad to observe that in your editorial note (*C. & D.*, September 26, p. 397) you have made this perfectly clear. While I do not agree that there are so many difficulties in the way as "Xrayser" states (p. 381), I entirely agree that the process of elimination of articles and undeserving recipients advocated by you is the best and most businesslike policy. Procrastination is dangerous.—Yours faithfully,

JUSTICE (30/9).

Risks That We Run

SIR,—It is reported by the Scottish Pharmaceutical Federation (*C. & D.*, September 19, p. 354) that they have had an indemnity claim against a member by a person who came into the member's shop and asked to use the telephone, and afterwards fell through a trap-door left open by an assistant. Chemists have always been expected to act the part of guide, philosopher and friend to the public (at no expense to the latter), and the use of one's telephone is a privilege which some customers have come to look on as a right. In these days, when telephone kiosks are being erected at many corners, one might expect people to pay their own twopences. It is decidedly rough when a gratuitous service rendered by the chemist involves him in a claim for damages, and it makes one doubtful how far one might be held liable. If, for instance, a customer had several purchases from other shops, including a bottle of hair wash, and the chemist was asked to tie them up in one parcel, could the customer claim on the chemist if the string broke and the bottle was broken?—Faithfully yours,

OBLIGER (28/9).

State Pharmacies

SIR,—I see it is reported (*C. & D.*, September 5, p. 295) that the French pharmacists have had the same threat of the institution of state pharmacies as we have had. In this country we have dispensing doctors, unqualified dispensers in many small institutions and surgeries, and staffs for state dispensaries would have been readily available if the clause in the insurance contract requiring the medicines to be dispensed under the supervision of a pharmacist had been abrogated. On the continent, however, the pharmacists have a greater hold on dispensing than we have, so that it would appear that they are in a better position to hold their own than we are. At the present time on the grounds of national economy we are to lose one ninth of the money allotted to us under the contract, which does not expire till next year. Considering that we have always recognised that the present scale of dispensing fees does not represent anything like a proper and fit remuneration for the responsible work done, are we going to make a stand for a tariff more in keeping with a professional calling, or are we, as usual, going to meekly accept whatever is handed to us, when negotiating a new contract?

Yours faithfully,

STATOR (19/9).

Legal Queries

Pestle (7/9).—Application for registration of a trade mark must be made on Form T.M. No. 2, which costs £1, and can be obtained from the Patent Office or from any Money Order Office. Full particulars of the procedure to be adopted are given in *The Chemist and Druggist Diary*, 1931, pp. 345-346.

J. W. W. (25/9).—The references to ailments on the labels on both articles render them liable to medicine-stamp duty. If you wish to sell them unstamped as "known, admitted and approved" remedies it will be necessary to comply with the conditions laid down by the Board of Customs and Excise (*C. & D.*, March 8, 1930, p. 300; *C. & D. Diary*, 1931, p. 329), which require the publication of the complete formula with amounts on the label and also on the carton or wrapper, if any, together with the words "no proprietary rights are claimed in the preparation of this medicine."

P. J. B. (21/9) married, in 1925, the widow of a chemist who carried on business in a town in Ireland of which he had been the tenant since 1913, under a verbal tenancy. The rent is £25 a year, and "P. J. B.," who has ever since occupied the premises and carried on the business, has undertaken most of the repairs and carried out many structural improvements. Last March, "P. J. B." bought another chemist's business in the town and is now living at the new premises because they are more convenient. The landlord of the old premises has now given him notice to quit on January 1, next. Must "P. J. B." vacate the premises and, if so, is he entitled to compensation? [If, as we gather, neither "P. J. B." nor anyone else is residing on the premises, the landlord would, according to English law, be entitled to recover possession after terminating the tenancy by the requisite period of notice. Whether the notice given is adequate depends upon the terms of the tenancy. In England, however, "P. J. B." might have a claim for compensation or a new lease under the Landlord and Tenant Act, 1927, provided that he makes a claim, in the prescribed form, within a month after receiving notice to quit. What the legal position may be in Ireland, we cannot say, and "P. J. B." should consult a solicitor immediately.]

Subscribers' Symposium

For interchange of opinion among "C. & D." readers and brief notes on business and practical topics.

A Missing Book

Mr. J. R. Turton, Wolverhampton, writes: "Will the student who took away a copy of Bentley and Driver's 'Pharmaceutical Chemistry' by mistake from Oozell Street, Birmingham, during the recent written examination kindly return the same to 17 Crowther Road, Wolverhampton?"

Mercuric Nitrate Ointment

May I through your columns congratulate Mr. F. J. Todd on his splendid article "Notes on Mercuric Nitrate Ointment" (*C. & D.*, July 25, p. 123)? The time occupied for the completion of the ointment was considerably less than that taken by the B.P. method.—*F. Eric Farrow*, Sandling.

Profits and Percentages

I quite agree with the letter of Mr. Sidney H. W. Lee (*C. & D.*, September 19, p. 374) regarding the price of de-stamped proprietaries. We ought not to grumble at a policy which confines the sale of some proprietary medicines to chemists only. It is the patent which is issued both stamped and otherwise which causes the trouble, and is the one which the chemist should not push.—*D. Stamp* (28/9).

Miscellaneous Inquiries

When samples are sent particulars should be supplied to us as to their origin, what they are, what they are used for, and how. We do not undertake to analyse and report upon proprietary articles nor to publish supposed formulas for them.

W. B. (25/38).—The formulas for which you ask are as follows:—

COCONUT OIL SHAMPOO

Coconut oil soap	...	...	...	3ij.
Glycerin	...	...	...	3i.
Oil of bay	...	...	...	℥v.
Distilled water	...	...	to	3viij.

Heat the soap with the glycerin and water on a water bath to dissolve, then allow the solution to stand in a cool place to deposit. The supernatant liquid may be filtered to give a brighter liquid.

The following is a formula for coconut oil soap:—

Coconut oil	...	...	...	10 dr.
Potassium hydroxide	...	...	...	1 dr.
Sodium hydroxide	...	...	...	1 dr.
Water	...	...	...	10 dr.

Dissolve the alkali in the water and mix with the oil. Allow to stand in a warm place for a few hours to saponify.

HAIR SETTING LOTION

The following formula is for hair setting, not fixing:—

Potass. carb.	...	...	...	gr. xx.
Liq. ammon.	...	...	...	℥v.
Glycerin	...	...	...	℥xx.
Spt. rectif.	...	...	...	3ij.
Aq. flor. aurant	...	...	...	3iij.
Perfume	...	...	...	q.s.

PINE TAR SHAMPOO

This can be made by adding a small proportion of liq. carbonis and ol. pini to a good shampoo liquid. The following formula would serve as a base:—

Potassium carbonate	...	...	...	12 oz.
Water	...	...	...	2 gall.
Industrial spirit	...	...	...	3 gall.
Dry extract of quassia	...	...	...	1 oz.
Saponin	...	...	...	2 dr.

Every formula containing industrial spirit must be submitted to the Board of Customs and Excise for approval. An alternative formula would be:—

Pine tar	...	...	...	2½ oz.
Linseed oil	...	...	...	27 oz.
Caustic potash	...	...	...	6 oz.
Spirit	...	...	...	3 oz.
Water	...	...	to	64 oz.

Heat the tar and oil to 60° C., dissolve the potash in 30 oz. of water, add the spirit and gradually incorporate the solution with the oil and tar. Heat until the tar and oil is saponified, and make up to volume.

Retrospect of Fifty Years Ago

Reprinted from

"The Chemist and Druggist," October 15, 1881

Pharmaceutical Society of Ireland

The president said [at the annual meeting, held on October 3] that, during the past year the number of candidates for the Final examination had been less than in previous years, nineteen only having passed, but the Preliminary showed an increase, forty-three having passed. This looked more hopeful, as it would be expected that these students would hereafter present themselves for the Final examination. The finances did not appear to be very satisfactory. As regarded prosecutions, although the Legal Committee had not been idle, yet from some cause its endeavours had not been successful. He considered some cases should be tried in the country, where less was known of the working of the Act than in town. . . . He was glad to say that the past year had been marked by joint action between the medical profession and pharmacists.



[Commenced C. & D., July 5, 1924]

Vitamin D (cont.).—Rickets is definitely due to absence of vitamin D, which results in non-deposition of calcium phosphate. The "line test" is used to determine the amount of antirachitic vitamin by this characteristic. It consists essentially in feeding rats upon rachitic diets until tottering gait and wavering hindquarters indicate that the metaphyses of the bones are free from calcium salts, the period of vitamin-D starvation required being from thirty to forty days. Antirachitic material is added to the daily ration in amount sufficient to cause complete healing. Then a longitudinal section of the proximal end of the tibia of the test animal (rat), after it is immersed in one-per-cent. silver nitrate, will show the new deposit of calcium phosphate as a broad line on the metaphyseal side of the epiphyseal cartilage. By testing against control animals the antirachitic value can be expressed in terms of standard unit (0.0001 milligram of "standardised" irradiated ergosterol). The progress and cure of rickets in children and large experimental animals (puppies) is readily followed by x-ray photography. The bowed legs and other deformities of rickets can be induced by vitamin-D starvation and removed by administration of vitamin D. In adults prolonged avitaminosis D leads to resorption of calcium deposits and the disease known as osteoporosis. The observation of Raczyński in 1913 that sunlight helped to prevent rickets in puppies was followed by a report from Hildschinsky in 1920, proving that ultra-violet light cured rickets in children. Steenbock in 1924 showed that a rachitic ration could be made antirachitic by exposure to ultra-violet light. Hess (1924) found that such irradiation treatment endowed the sterols in the unsaponifiable fraction of vegetable oils with antirachitic properties, the suggestion being that cholesterol is thus activated. In 1927 it was found that ergosterol present as an impurity is the substance changed into vitamin D, cholesterol itself not being the vitamin-D precursor. Rosenheim (1927) proved that cholesterol cannot be rendered antirachitic by irradiation, and arrived at the conclusion that ergosterol or a similar highly unsaturated sterol is the parent substance of vitamin D. Later it was concluded that the specific relative positions of the three double bonds in ergosterol are essential for the conversion of sterol into vitamin by the photochemical action of ultra-violet light. Biological and spectroscopic methods of investigation have not yet isolated the elusive and changeable antirachitic vitamin. However, there is no doubt that vitamin D and ergosterol absorb light of the same wavelength, and that the rate of production of vitamin D is proportionate to the amount of light absorbed by ergosterol. The maximum absorption is around $270\text{--}280\mu$, but the vitamin is destroyed by light of the same length as that which is responsible for its formation. Vitamin D has been obtained in a crystalline condition by Windhaus, who treated irradiated ergosterol with maleic anhydride in ethereal solution to remove inactive products. Bourdillon has also procured crystals of vitamin D by distillation of irradiated ergosterol in high vacuum. Vitamin D crystallises in long needles melting at 122°C . The crystals show a band in the absorption spectrum at 2.650 to 2.700 A° . Their potency is 2 to 2½ times that of the Medical Research Council's standard. Vitamin D is apparently an isomer of ergosterol. It is suggested that crystalline vitamin D consists of at least two isomorphous forms, of which the laevo modification is very unstable, whilst the dextro variety is relatively stable. Irradiated ergosterol has been made with an activity

ten times that of the standard issued by the National Institute of Medical Research, the daily curative rat dose being 0.00001 mgm. (compared with 0.0001 mgm. of standard). This is still impure, as it is considered that the vitamin concentration cannot exceed 35 per cent., since unchanged ergosterol and destroyed vitamin must inevitably be also present. The therapeutic action of irradiated sterol or vitamin D depends also upon the calcium-phosphorus balance being suitable. In general, vitamin D is only one of many factors entering into bone formation. For example, hypervitaminosis or excess of vitamin D in diet devoid of calcium causes bone resorption. The reserves of vitamin D in the body are low compared with those of vitamin A. Sun-bathing is decidedly helpful as a source of vitamin D, but excessive insolation (with consequent erythema) is deleterious. The vitamin-D content of food-stuffs is connected with irradiated ergosterol present in unsaponifiable matter of oil. Cod-liver oil and fish oils have long been recognised as potent sources of vitamin D (and vitamin A). Egg yolk, butter and milk are important antirachitic foods. Irradiation of milk is practised on a large scale to overcome its liability to deficiency in vitamin D in winter. Standardised concentrates of vitamin D are made for medicinal prophylaxis. Malt and oil remains the popular antirachitic for growing children. Ergosterol (from yeast) is irradiated on a large scale for adding to margarine and vitamin foods. Rickets is now virtually abolished in civilised communities as a result of the knowledge regarding vitamin D.

Vitamin E.—Evans and Bishop in 1922 discovered the existence of a third "fat-soluble" factor essential for the fertility of rats, which in alphabetical sequence is now known as vitamin E. Lack of vitamin E results in sterility of both males and females. In males avitaminosis E leads ultimately to degeneration of testicular (spermatic) tissue and sterility is thereafter incurable. In the case of females, failure of placental function is the cause of sterility, and this is curable by a single massive dose of vitamin E. Capacity to reproduce also follows lack of vitamin A, which is thus also an anti-sterility factor, but this designation has been appropriated to vitamin E. Both vitamin A and vitamin E are necessary for the maintenance of the epithelium of testis in a state of germinal activity. The rat is able to store sufficient vitamin E from a large dose to last through two or three generations. The normal body storage suffices for three or four months. Wheat germ (embryo) is the most potent source of vitamin E. The anti-sterility factor is contained in the unsaponifiable matter of the wheat germ oil, and the sterol-free oil upon distillation at a pressure of 0.5 mm. of mercury concentrates the vitamin potency in the fraction coming over between 200° and 223°C . This is still impure, but it prevents sterility in rats by a daily dose of 0.3 mgm. Vitamin E thus resembles vitamin A in being essentially oil. It differs in being remarkably stable, protective and sufficiently water-soluble for aqueous solutions to be protective. Vitamin E withstands heating to 170°C . and is little affected by attempts at oxidation with air, the vitamin not being entirely destroyed at 97°C . even when alkali or acid is present. Wheat germ oil can be hydrogenated without injury to vitamin E, which also resists the action of boiling alcoholic potassium hydroxide solution (20 per cent.) and concentrated sulphuric acid. However, development of rancidity has a destructive (oxidative) effect on vitamin E. The smallness of the amount of vitamin E required to prevent sterility and its wide distribution render this factor of little therapeutic importance. Green leaves (notably lettuce) and seeds are rich in vitamin E. It is present in egg yolk, milk, and meat in small but sufficient amount.

Vibration, Effect on Display.—In many pharmacies situated in streets where the traffic is heavy, it is no uncommon event to have articles used in displays dislodged from their shelves when a loaded lorry or other cumbersome commercial vehicle drives by, owing to the vibration which its passage sets up in the shop building. One way of avoiding this is to have reasonably close packing of stock shelves, and to enclose them

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with glass sliding or opening doors. Another method is to have a moulding attached to the edge of the shelf, projecting above the level of the shelf so as to form a "lip" and thus to prevent the slipping off of light articles. Instead of open shelves or stands on the counter, neat frameless showcases might be employed. There are several varieties of these capable of easy assembly by means of clips. Glass in direct contact with glass should be avoided, for vibration causes it to jingle or rattle. Crêpe paper folded two or three times may be an effective deterrent of this. In some shops vibration has been minimised, if not altogether obviated—particularly in windows—by the use of a sound-deadening material, such as felt, beneath bearers or joists. Several devices have been introduced by shop-fitters for holding small goods securely in the window. The lighter types of stands may be obtained with specially weighted bases. Trays for open display can be fitted with a special safety clip fitted with a sliding extension which, while allowing for the adjustment of the tray in any position, ensures its rigidity. The clips screw on to the back of the tray, lie flat on the shelf, and are also clipped over the back of the shelf or to a horizontal bar fitted to the standard bars. Too much care cannot be taken to ensure that every shelf in the window is fitted securely. They should be absolutely level and rigid. Standard bar and bracket screws should be inspected from time to time and any that have worked loose should be tightened.

Village Shops.—In those few villages which still retain their individuality it is extremely important that shop-owners should preserve their premises in keeping with their delightful surroundings. Chemists, in particular, have a grave responsibility in this direction. If they have their shops modernised, they should scrupulously avoid the use of any materials or designs that clash with their surroundings. Black glass and stainless steel, for example, are quite unsuitable for country shops. Here and there, one still finds pleasant little pharmacies which, while being progressive, are not necessarily modern in appearance; but more often one comes across once delightful little Georgian and Regency pharmacies which have been botched beyond recognition by having their pretty little intimate windows with their small panes replaced by large sheets of plate-glass. It is quite a mistake to assume that plate-glass is essential to good display. The small glazing bars make attractive little frames for the exhibition of small goods, and preserve the old-world rural character of the shop. The staring white fascia and the large expanse of plate-glass is by no means the *sine qua non* of a successful pharmacy. A progressive business can be carried on equally well behind a shop-front that blends with its surroundings. Blatant publicity in a small country town or village is more likely to prove harmful than helpful to the chemist thus situated, for shops plastered with signs and advertisements in a pretty rural street are becoming more and more objectionable to a public gradually being educated up to a higher standard of taste in building and advertising.

Visible Records.—Card indexes and loose-leaf systems have been improved beyond all knowledge during the last decade, but with the great majority of these systems there is a permanent disadvantage that time is wasted in turning over pages or running one's eye over guide card tabs or thumb pieces, and then lifting out cards. Several systems have been devised, however, which enable all entries to remain visible. These take the form of pull-out trays or slides which contain the actual record sheets in docket, or pockets, having index plates and a finger grip at the top, so that the nature of their contents can be seen. These slides are fitted into steel cabinets, and when it is desired to make an entry they are pulled out to their fullest extent when one end drops to form a sloping writing surface. The pockets, made of strong paper, fit into the walls of the slide by means of extending ears which hold them firmly in place one

over the other, like slates on a roof. By this means one pocket is interlocked one with another, giving uniform exposure of titles on the lower edge of each card. A typical cabinet contains twenty-six slides, each slide having a capacity for twenty-four card-holders, using only one side of a card-holder, the recording capacity of a cabinet is fourteen hundred and four entries. This capacity is doubled if both sides are used. Graphs and charts are other forms of visible recording which can be adapted for stock-control purposes, mail order work, and general progress returns.

Visible Stock Systems.—To-day the chemist aims at having as much of his stock as possible displayed for the customer's inspection. Wooden cupboard doors have been replaced by sliding glass panels or glass opening doors, which enable stock on shelves to be stored and displayed simultaneously. Even in the storeroom and dispensary everything is visible at a glance, and generally the only stock fitting, the contents of which are closed from view, is the dangerous drugs and poison cupboard. There is no reason why every item of stock should not be permanently within view, for even drawers and pull-out-trays can be given glass fronts. A modern alternative to the use of drawers in the base of wall-fixtures is a fall-flap which enables the contents to be quickly removed and counted. How far stock should be shown under glass is a debatable point. Some chemists prefer it because it prevents pilfering, others prefer to leave an open stock on the counter, and thus encourage customers to pick articles up and make impulsive purchases. A good fitting for the counter which enables stock to be seen clearly, and at the same time helps customers to serve themselves, is a sliding glass-fronted case. This can be pushed out to the front of the counter so that customers may select for themselves, and it has the advantage that when goods are not actually being selected they are kept under glass. Undoubtedly the visible stock system facilitates quick service, increases sales, and greatly simplifies both stock-control and stock-taking.

Vuzin.—Trade-mark name of iso-octyl hydrocupreine, given internally for ridding the blood of pneumococci or *B. diphtheriae*, and used in a solution of 0.5–1-per-cent. strength as an antiseptic for the treatment of wounds.

W

Wahoo Bark.—See *Euonymus Bark*.

Waterglass.—A solution of sodium silicate ($4\text{SiO}_2 \cdot \text{Na}_2\text{O}$), used to a very large extent as a preservative of eggs. The concentrated product has a s. g. about 1.7, and is diluted to about 1.35 when sold retail. This product is diluted with water, about 1 to $1\frac{1}{2}$ lb. to the gallon, and the eggs immersed in the liquid. Silicate of soda is also used in certain compositions employed by builders to prevent dampness in outside walls. Recently silicate of soda has come into some prominence as a substance for the prevention of corrosion in iron, lead and aluminium. According to J. C. Thruhl, silicate of soda in quantity equivalent to less than one part of silica in 200,000 so reduces the tendency of a soft water to attack lead that supplies of water otherwise dangerous can thus be rendered safe.

Watering Stock.—Increasing the nominal capital of a company without any addition to assets.

Weighing Machines.—See *Scales*.

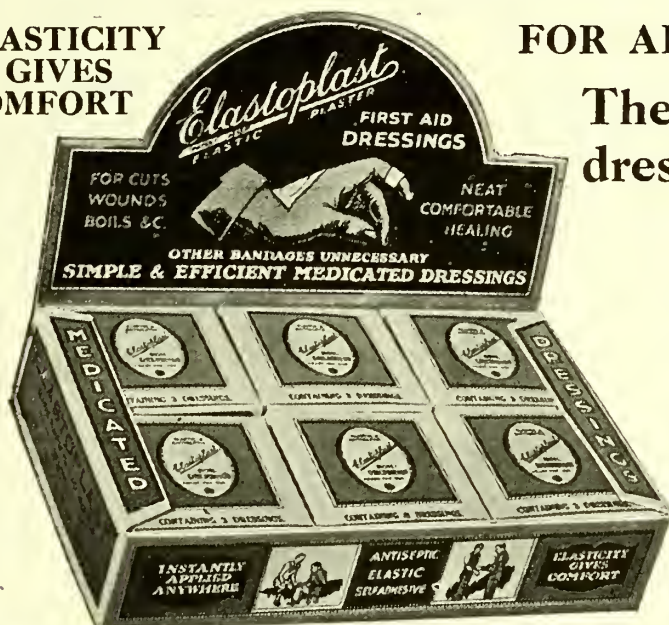
Weights.—See *Apothecaries' Weights and Measures*; *Avoirdupois Weight*; *Measures, Imperial*; *Measures, Metric*; *Metric System*.

White Lead.—See *Lead Salts*.

White Precipitate.—See *Precipitate, White*.

White Vitriol.—See *Zinc Sulphate*.

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THE CHEMIST & DRUGGIST DIARY, 1931

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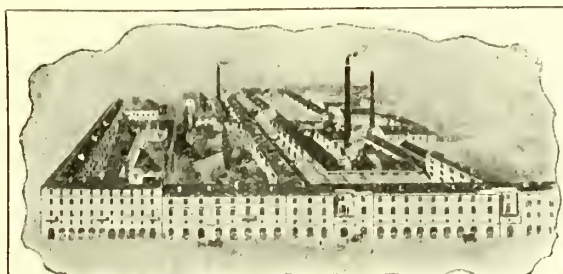
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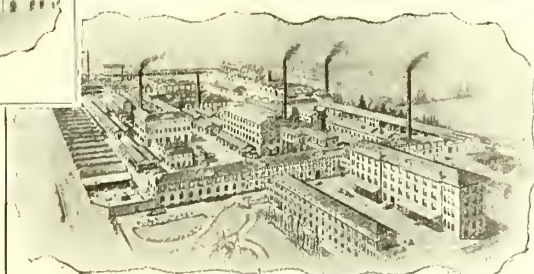
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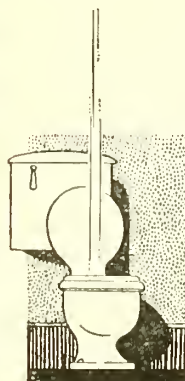
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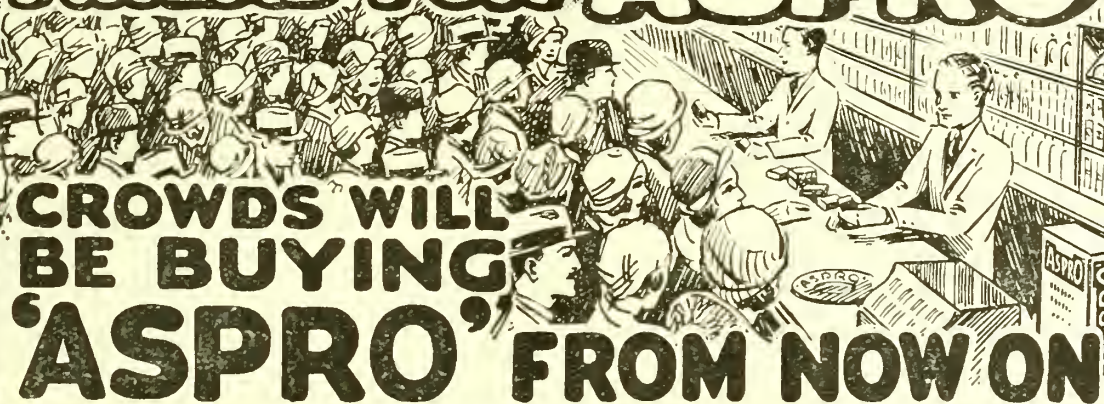
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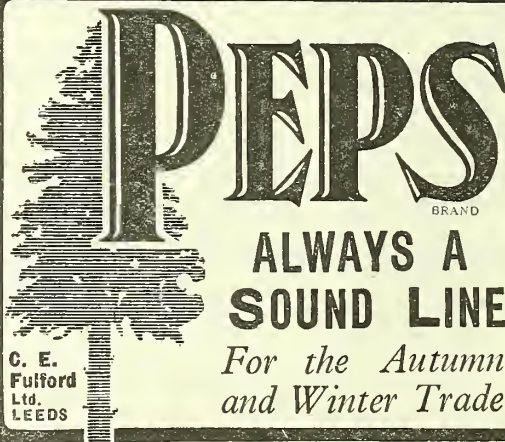


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BALM
"SANDOZ"****Inflammations
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Advertised to Physicians.

Packed in tubes - 1/2, 2/-, 7/6

Trade Prices - 10/6, 18/-, 67/6
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LONDON, S.W.1**It will pay you to stock them!**When the public demand goods bearing a specified name the wide-awake
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PREPARATIONS. Are you the retailer who is preparing to meet
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Keen prices, fine packs (handsome own labels for nearly everything), and good show material, are all available if you will just send us your enquiries.

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many very handsome packs.

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Especially good cough tablets
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“VELVA” SERIES OF AUTUMN PACKS

especially Chemical Food,
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now established throughout
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INDIGESTION

THE MOST COMMON OF ALL HUMAN COMPLAINTS

How many people appeal to you to give them "something for Indigestion?"

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CICFA is being steadily advertised in the national Press. New customers will come to you as a result of this campaign. Be prepared to meet the demand with adequate stocks.

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ALL GOODS CARRIAGE PAID.

These goods are to be sold to the public only at face value.

For quantities of not less than £10 :

1/3 Size	-	-	11/-
3/-	„	-	28/-

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Less 2½% for cash with order, or Net on 10th of month following month of purchase.

For quantities under £5 :

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3/-	„	-	31/-

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NOTICE

TO

RETAIL DISTRIBUTORS OF MOTHERSILL'S SEASICK REMEDY

Owing to a recent interpretation of the Pharmacy Acts, Mothersill's Seasick Remedy will in future be labelled with the word Poison.

In order to comply with the Pharmacy Acts, the Chemist who sells Mothersill's Seasick Remedy will be required, in future, to place his name and address upon each box.



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MALT EXTRACT MALT & OIL

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53 6 per cwt. 59 6 per cwt.

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28 lb. .. 56 6 " 62 6 "

14 lb. .. 58 - " 64 - "

7 lb. .. 59 6 " 65 6 "

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$\frac{1}{2}$ lb. size 5/3 per doz. 5 6 per doz.

1 lb. " 7 6 " 8 - "

2 lb. " 13 6 " 14 6 "



MALT EXTRACT MALT & OIL

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$\frac{1}{2}$ lb. size 6 7 per doz. 6 9 per doz.

1 lb. " 8 6 " 9 - "

2 lb. " 15 - " 16 - "

4 lb. " 28 - " 30 - "

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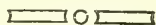
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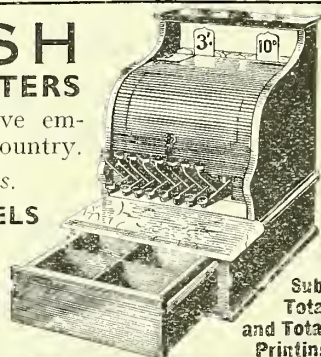
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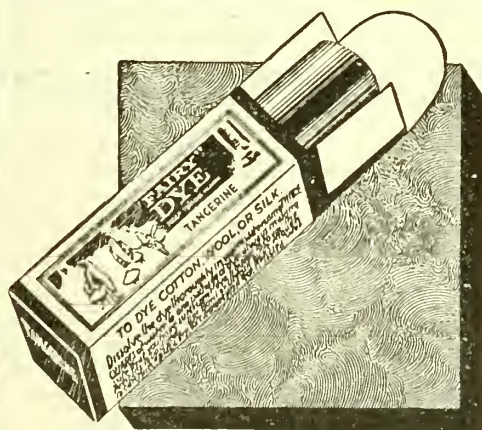
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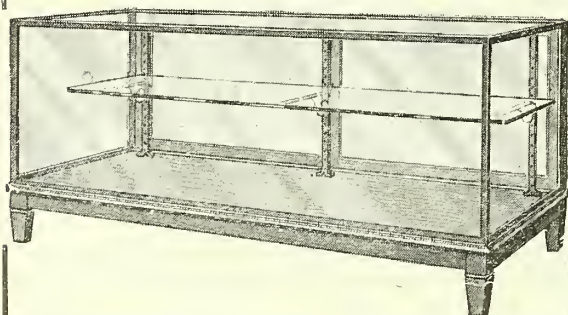
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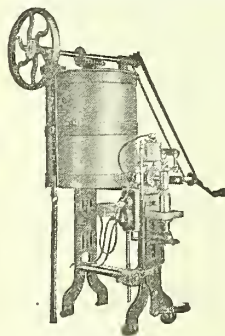
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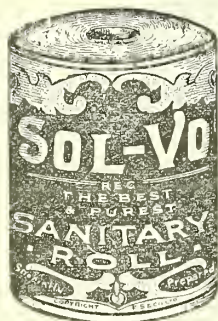
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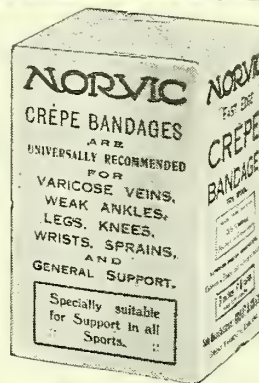
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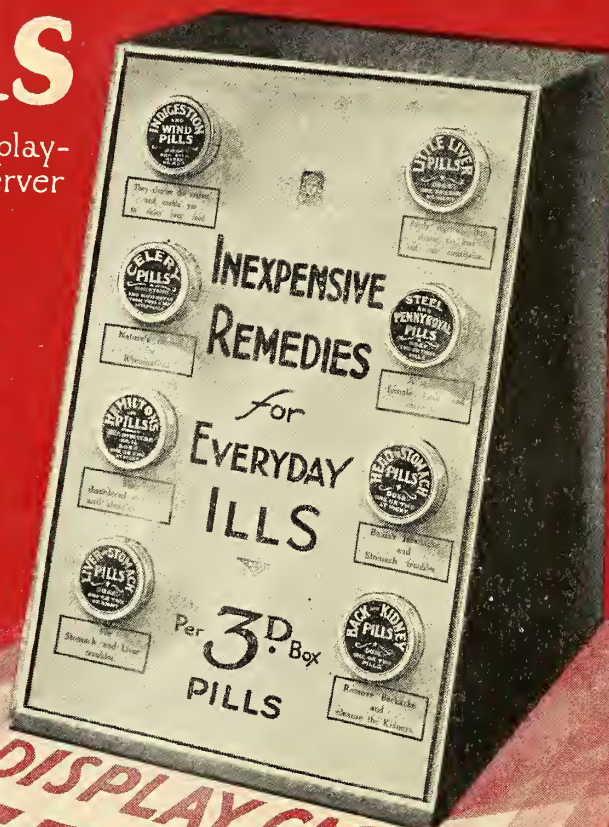
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28 ESSEX ST.
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OCTOBER 3, 1931

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May be consulted at their Offices on matters of Sale, Purchase & Valuation

1.—**NORTH LONDON.**—Cash Retail Business, with Photographic; little N.H.I.; returns approach £4,200, with net profit £1,300; double-fronted shop, well fitted and stocked; good living accommodation; room for garage; property may be purchased, or lease will be granted; terms, valuation of stock and fixtures, plus an agreed sum for goodwill; further details on application.

2.—**CAMDEN TOWN.**—Middle-class Business, with Kodak Agency; situate in busy shopping centre; returns under management, average £26 weekly, plus 250 N.H.I. scripts; unlimited scope for increase; double-fronted shop, well fitted and stocked; good living accommodation; rent £100 per annum; held on lease; open to offer.

3.—**EALING (Near).**—Middle-class Business, with small N.H.I. and Kodak Agency, situate in residential area; returns present rate about £20 weekly, increasing; good profits; double-fronted shop, nicely fitted and amply stocked; 19 years' lease; rent £19 10s. quarterly; rates £16 per annum; price £475, or near offer; ill health of wife sole reason for disposal.

4.—**EAST LONDON.**—General Retail Business, with N.H.I. and Photographic; returns between £3,000 and £3,250 per annum; net profit between £800 and £900; double-fronted corner shop, very well fitted and amply stocked; rent £80; lease has 16 years unexpired; valuation terms entertained.

5.—**WEST-END.**—High-class Retail and Dispensing Business; established many years; returns present rate £30 per week; have been much more; gross profit 44 per cent.; business run under management; excellently fitted shop, amply stocked; reasonable rental; long lease; open to offers.

6.—**CHISWICK.**—General Retail Business, with N.H.I. and Kodak Agency; established 1858; returns approximately £1,200 per annum; gross profit about £500; single-fronted shop, fairly fitted and fully stocked; accommodation comprises 10 rooms; private and back entrances; garage; rent £60 per annum; held on lease; price £200 for lease and goodwill, plus stock and fixtures at valuation.

7.—**MIDDLESEX (Suburban).**—General Retail and Dispensing Business, with Kodak Agency; returns present rate average £30 weekly; scope for increase; double-fronted shop; main road

position; rent £135; sub-let £3 weekly; held on lease; house can be obtained if required; stock worth £500; vendor will accept lump sum or valuation terms.

8.—**SOUTH COAST.**—General Retail Business, situate in good position; established nearly 50 years; returns about £2,750 per annum; net rent of shop £73; held on renewable lease; price to be arranged.

9.—**KENT.**—Retail Dispensing Business, with Kodak Agency, Family and Agricultural trade; very small amount of N.H.I.; returns last year £2,052; net profit £502; rent £85; long lease; valuation terms entertained.

10.—**DORSET.**—General Retail and Photographic Business, with Rexall Agency; returns for year ended Lady Day 1931, £1,917; panel, £82, included in turnover; gross profit £689; net profit £441; wages £100 per annum; rent £100; rates £18; held on lease; price £1,100.

11.—**CHANNEL ISLANDS.**—Family Retail Business, with Kodak Agency just added; established by vendor in 1894; returns, present rate, £1,400 per annum; scope for increase; average gross profit about £470 and net profit £313; vendor estimates stock and fixtures to be worth £600; four large rooms over shop; side entrance; new lease; rent £80 per annum; price £900, or near offer.

12.—**MIDLANDS.**—General Retail Business, with Kodak Agency, situate in the main street of an imposing modern town; established 100 years; returns approximately £2,600 per annum; net profit £600; large house, with side entrance; rent £150, rising to £175; long lease; price to be agreed.

13.—**DERBYSHIRE.**—Old-established Country Retail and Dispensing Business, with Kodak Agency; entirely unopposed; returns last year £2,356; double-fronted shop; living accommodation and garage; rent £57 per annum; held on lease, with option to purchase property; population 3,000; stock worth £750; price about £1,400, or valuation terms entertained.

14.—**NORFOLK.**—Small Country Business, producing about £200 net profit per annum; eight-roomed house, with private entrance; very good garden; new lease; rent £25; no opposition; price about £500; vendor has bought another business.

Chemists' Transfers, Valuations for Sale, Stocktaking & Probate

SPECIAL TERMS FOR INCOME TAX VALUATIONS

ERNEST J. GEORGE

CHEMISTS' VALUER AND
TRANSFER AGENT

Tel: Earnest, Walsall.

TUDOR HOUSE, WALSALL.

'Phone: Wal. 3774

Quotations for Stocktaking or for Pricing Chemists' Own Stock Records Supplied on Application

Correspondence is invited from prospective purchasers relative to the following businesses for disposal:—

(C1) CENTRAL MIDLANDS.—The opportunity may shortly arise whereby a high-class retail and dispensing business with a five-figure turnover may be available for disposal; pharmacists likely to be interested are invited to write in confidence for particulars to be forwarded when available; Bankers' references required. (Personally recommended.)

(C2) CITY OF LONDON.—An old-established, high-class City pharmacy showing returns of approximately £7,000 per annum is available for disposal privately on account of contemplated retirement; general particulars relative to type, working expenses, etc., will be supplied in strict confidence to bona fide prospective purchasers, and interviews afterwards arranged in cases where it is desired to proceed to negotiation; correspondence, which will be treated in strict confidence, is invited from pharmacists with capital, to whom the proposition is of personal interest.

(C3) LONDON, NORTH.—Cash retail business doing over £80 weekly; double fronted premises, pleasantly situated and elegantly fitted; net profits (certified) exceed £1,000 per annum; a new 21 year lease will be granted at a yearly rental of £200; good living accommodation; value of stock, approximately £1,350; further particulars to bona fide prospective purchasers upon application. (Visited and recommended.)

(C4) SOUTHERN COUNTY—CATHEDRAL CITY.—High-class pharmacy doing approximately £50 weekly; excellent living accommodation, which if not required could be sub-let on advantageous terms; good lease; pharmacy well-stocked and fitted; further particulars on application. (Visited and recommended.)

(C5) HAMPSHIRE.—Old-established retail and dispensing business, with good connection in Fancy and Toilet Requisites; average turnover approximately £2,500 per annum; audited accounts available; for disposal on account of family reasons. (Visited and recommended.)

(C6) YORKSHIRE (WEST RIDING).—Retail and dispensing business (unopposed) with wine licence; average returns approximately £1,300 per annum; excellent living accommodation; ladies' hair-dressing saloon attached showing additional profits of approximately £6 weekly; audited accounts available.

(C7) PORTSMOUTH DISTRICT.—Drug store showing returns of approximately £10 weekly; excellent scope for increase under qualified proprietorship; good living accommodation; purchase price £170, or near offer.

(C8) BOURNEMOUTH.—Lock-up pharmacy doing £18-£20 weekly; good prescribing and photographic trade; owner moving for health reasons; purchase price for quick sale, £650.

(C9) LONDON — WEST.—Old-established pharmacy doing approximately £2,500 per annum; situated in commanding position; well-stocked and fitted; valuable income derived from sub-letting; net profits as per accountant's report, approximately £675; health trouble sole reason for wishing to dispose; full particulars in confidence to bona fide prospective purchasers. (Visited and recommended.)

(C10) KENT.—Old-established; present returns exceed £2,000 per annum; net profits, £500; rent, £85 on long lease; good scope for increase. (Visited and recommended.)

(C11) SOUTH-EAST MIDLANDS.—Excellent profit-making business with certified returns for the past three years upwards of £2,200 per annum; net profits approximately £550; easily worked; good living accommodation. (Visited and recommended.)

(C12) TEES-SIDE.—Good retail and dispensing business; present turnover approximately £1,750 per annum; net profits, £480; good living accommodation; rent, £110 on lease; bona fide reasons for wishing to dispose. (Visited and recommended.)

(C13) STAFFS.—Drug store situated near centre of busy town; present returns average approximately £12 weekly; business has done £30; good living accommodation; rent £48; excellent scope under qualified proprietorship.

(C14) WILTSHIRE.—Established business for disposal owing to illness of proprietor; turnover approximately £30 weekly; inclusive rental, £57; good living accommodation.

(C15) SOUTH WALES (NEAR CARDIFF).—Established retail pharmacy; present returns approximately £23 weekly; good living accommodation; low purchase price; owner moving on account of family and health reasons.

(C16) NORTH CHESHIRE.—Good retail and dispensing business situated in pleasant residential district of progressive and extending seaside borough; main road position; audited accounts available; proprietor going abroad on Doctor's orders; capable of every investigation; purchase price for quick sale, £500. (Visited and recommended.)

(C17) LONDON, N.W.—Old-established retail and dispensing business situated in growing residential area; net profits exceed £350 per annum, with good prospects of early increase; low overhead charges; purchase price approximately £700. (Visited and recommended, particularly to beginners.)

(C18) DONCASTER.—Good retail and family business; turnover approximately £20 weekly; N.H.I. dispensing; low overhead expenses; purchase price, £500. (Visited and recommended.)

(C19) EAST KENT.—Easily-managed business, turnover approximately £1,500 per annum; no opposition; proprietor wants to go North of England; premises, built and designed by owner, also for sale, and consist of up-to-date easily worked house, with lawn tennis court and charming garden; ideal surroundings, and well situated for lover of country; price for premises, £2,000, and for the business,

including stock, fixtures and goodwill £1,500, making £3,500 in all. (Personally investigated and recommended.)

(C20) SUSSEX.—Good retail business with quick counter trade, situated in growing seaside resort; turnover for last three years records consistent increase; present returns, £30 to £35 weekly; rent, £35 on lease; good living accommodation; business easily worked; net profits exceed £450 per annum; reasonable purchase price; nearest chemist to sea front. (Visited and recommended.)

(C21) SURREY.—Pharmacy, well situated in busy trading centre; double-fronted premises with good living accommodation; returns for last three years exceed £2,250 per annum; freehold premises also for disposal, on which a mortgage can be arranged if desired.

(C22) LONDON—EAST.—Good family business doing £35 to £40 weekly; N.H.I. dispensing; Kodak agency; living accommodation (self-contained); stock and fixtures estimated at £750; further particulars on application.

(C23) LONDON—EAST.—Retail pharmacy, old-established, showing returns of approximately £90 weekly; premises comprise double-fronted shop and warehouse, together with good living accommodation; long lease at moderate rental; purchase price to include lump sum for lease and goodwill, stock and fixtures at valuation, or by agreement.

(C24) YORKSHIRE (WEST RIDING).—Established pharmacy, neglected, but possessing undoubted scope, available for disposal at valuation of stock and fixtures only; the property may be acquired at a low figure, or a lease might be arranged at an agreed rental; present takings approximately £25 weekly, but these figures could be increased considerably in a short time under personal proprietorship or adequate management; special circumstances necessitate a quick sale; the business, however, is a sound one and constitutes an exceptionally good investment as the possibilities are well apparent. (Investigated and recommended.)

(C25) NORTH MIDLANDS.—Unopposed retail and dispensing business in small country town; turnover approximately £45 weekly; good living accommodation; average net profits for past three years exceed £450 per annum; rent, £57 on lease. (Visited and recommended.)

(C26) LANCASHIRE.—Wholesale Drug and Surgical Instrument business for sale, owing to death of principal; established over 100 years; full particulars to bona fide enquirers.

(C27) HEREFORDSHIRE.—Old-established family and dispensing business; average turnover approximately £3,200 per annum; rent £100 on lease; situated in busy thoroughfare and within easy reach of growing residential district. (Visited and recommended.)

(C28) KENT (COASTAL TOWN).—Pharmacy with optical connection, splendidly situated in busy thoroughfare; present returns approximately £1,950 per annum and increasing; well stocked and fitted; living accommodation available; owner disposing on account of health trouble; low purchase price.

(C29) BIRMINGHAM.—Established retail and dispensing business (all cash trade) with good photographic connection; average returns approximately £1,300 per annum; net profits exceed £350; good N.H.I.; very low rental; living accommodation available; at present sub-let for more than rent of entire premises; this is an exceptional opportunity for a "live" man, as the owner must sell quickly on account of family circumstances, and for a quick sale the business may be acquired at a particularly low figure; every investigation invited. (Visited and recommended.)

(C30) LINCOLNSHIRE.—Retail and dispensing business showing returns of approximately £2,250 per annum; rent, £110; lease, 12½ years unexpired; further particulars on application.

(C31) LIVERPOOL.—Pharmacists desirous of purchasing sound propositions in this City are invited to write in confidence for particulars of businesses which have been fully investigated and can be well recommended.

(C32) BRADFORD.—Corner pharmacy, well situated near city centre; returns approximately £45 weekly; very low net rental, consequent upon regular and recurring income from sub-lets; undoubted scope for increase; pharmacy well stocked and fitted; exceptional opportunity, as the owner, for personal reasons, is willing to dispose at a sacrifice. (Visited and recommended.)

(C33) LONDON, S.W.—Old-established high-class retail and dispensing business centrally situated in wealthy district; present returns approximately £2,500 per annum; net profits, £600; good living accommodation. (Visited and recommended.)

(C34) LEICESTERSHIRE.—Pharmacy recently converted from Drug Store, showing steady development; main road situation; entirely unopposed; low purchase price (Visited and recommended.)

(C35) LEEDS (SUBURB).—Underdeveloped pharmacy in growing district; modern premises well fitted and of good appearance; present turnover approximately £14-£15 weekly; rent, £40; may be acquired for value of stock and fixtures, less 20 per cent.

(C36) HIGH CLASS HAIRDRESSING, TOILET, AND CHEMISTS' BUSINESS—EXCEPTIONAL OPPORTUNITY.—The above business (retail), situated in a well-known southern seaside resort, is available for disposal owing to private internal circumstances which can be fully substantiated; the premises are exceedingly attractive, lavishly fitted, and constitute one of the finest establishments in the south of England; clients likely to be interested are invited to write for initial particulars, and the necessary introduction for personal investigation.

THE ASSOCIATION OF MANFG. CHEMISTS. LTD.

BUSINESS AGENCY, TRANSFER AND VALUATION DEPARTMENT.

Head Offices—Kimberley House, Holborn Viaduct, London, E.C.1 (and at 2 Bixteth Street, Liverpool).

PARKIN S. BOOTH, Valuer.

'Phone : City 1261-2-3.

BUSINESSES FOR DISPOSAL.

1.—**SURREY.**—Chemist's business in residential district, held on lease 7, 14, 20 years, at £98 per annum. Established 4 years. Returns £26 per week. Price asked—Lease and Goodwill, £350. Fixtures and fittings, £600. Stock approximately £400. Further particulars on application.

2.—**LONDON, S.E.**—Acid, Drug and Chemical Business for quick disposal. Premises held on weekly tenancy at 14s. per week, returns average £25 per week. Stock and fixtures estimated at £500. Offers invited.

3.—**DEATH VACANCY.**—**DEVON.**—Cash retail dispensing business recently opened. Reasonable lease will be granted or freehold may be acquired. Returns between £1,500 and £2,000, all cash. Good living accommodation. Applications for further particulars invited.

Stocktaking Valuations : We undertake this work at special rates and invite early applications.

S. F. CLARK, F.N.A.A. CHEMISTS' VALUER and TRANSFER AGENT

'Phone :

Richmond 2210

34 Marksbury Avenue, Richmond, Surrey.

London.—Old-established family and dispensing in unopposed residential suburb, returning £1068 (1930), long lease at £80 p.a. Owner retiring. Living accom. **Somerset.**—Est. 75 yrs. Turnover £1913. Only pharmacist for 5 miles. Owner seeking larger business. No Optician here. Price £1500. Freehold of shop and lg. ho., £1,000 (Particulars of these and many others upon application.)

MANUFACTURERS

IS YOUR SALES SERVICE SATISFACTORY ?

Are your products getting the distribution they merit ?

WELL-KNOWN Representative, now commencing as an Agent, requires several leading advertised Proprietaries, Toilets, Sundries, etc. which *must*, however, be the products of first-class firms only. Complete office organisation and travelling staff will be at the disposal of the products, and whether old or new lines, a guaranteed turnover is assured, with a much-better distribution and sales-service than you now obtain, backed by intensive working and propaganda. Showrooms available. Stocks kept if necessary. Territory covered—the British Isles.

Whatever your requirements, large or small, you cannot do better than write for full particulars of this exceptional opportunity which will cut your costs, and make your balance sheet look healthy. A staff of eight travellers, each of whom knows his job, will bring your products to the forefront of the market, and a comprehensive sales service with the individual attention of the advertiser will maintain a sales record you have never equalled.

Think this over, realise the importance of real representation that will maintain and increase upon your present output. Why stay out in the cold? Don't delay. Send now for particulars and grasp this opportunity of prosperity on an economical basis.

Reply, giving fullest details, to 192/808, Office of this Paper.

BERDOE & FISH

CHEMISTS' VALUERS AND TRANSFER AGENTS,

41 Argyle Square, KING'S CROSS, W.C.1

(One minute from St. Pancras and King's Cross Stations.)

1.—**SOUTH COAST.**—High-class Retail and Dispensing Business; has been neglected; present returns £40 a week; scope for being doubled; splendid position; handsome pharmacy; fully stocked; valuation terms arranged.

2.—**CUMBERLAND.**—Mixed Country Retail, with Wines and Spirits; returns £2,160, increasing; net profit £650; nice house; no opposition; price, with property, £2,585, or offer.

3.—**SOMERSET (Death Vacancy).**—High-class Business, unopposed; returns £1,570; net profit £482; convenient house, garden, etc.; stock and fixtures valued £700; price, with Freehold, £1,600.

4.—**HANTS (Nr. Bournemouth).**—Sound light Retail, in growing district; returns £1,357, steadily increasing; modern pharmacy and house; large garden; ill-health sole cause of selling; price £950, or valuation terms arranged.

5.—**ESSEX COAST.**—Good middle-class Retail and Dispensing Business in growing district; main road position; present returns average £34 weekly; good living accommodation, garage, etc.; price for early sale £750.

6.—**HERTS (Few Miles Out).**—Light Family Retail, with Kodak Agency; returns last year over £1,500; net profit about £450; low rent on lease; good stock; price £850; recommended.

7.—**SURREY (Banks of Thames).**—Light Cash Retail, Photo and N.H.I.; returns £1,250; plenty of scope; good house and shop; low rent; on lease; owner retiring; price £450; stock at valuation.

8.—**LONDON (Essex Suburb).**—Light Cash suburban, with good panel; returns over £2,200; net profit £585; main road position; good house; price, with freehold, £3,000.

9.—**BAKER STREET STATION (Near).**—Good-class Dispensing and Retail; turnover £2,200; excellent profits; long lease; well stocked; price £1,200; worth attention.

STOCKTAKING VALUATIONS.

We are prepared to undertake this work at special low rates and invite early applications; we are now booking dates for October onwards.

Estab. 1870.

Telephone : Terminus 3574.

BUSINESSES FOR DISPOSAL.

CROMARTY.

DESIRABLE PROPERTY AND BUSINESS FOR SALE.
FOR Sale by private bargain, the Dwelling-house and Chemist's Shop in High Street, Cromarty, belonging to the Trustees of the late Mr. Walter Johnstone, Chemist, Cromarty, together with the business of Chemist and Druggist carried on for many years by Mr. Johnstone, and latterly by his son, the late Mr. R. R. Johnstone. The business has been established for over 60 years, and is the only Chemist's Business in Cromarty. The Dwelling-house contains ten rooms. Both house and shop are in first-class repair. There is an excellent garden. For further particulars apply to Messrs. Middleton & Ross, Solicitors, Dingwall, with whom offers should be lodged not later than 15th October, 1931.

BIRMINGHAM.—For Sale, bargain; rare opportunity for young qualified man to acquire small Drug Store in thickly populated district, now doing £10 weekly; easily doubled; exceptional opening for Panel Chemist; house attached, let off; low expenses; good reasons for disposal. 44/27, Office of this Paper.

BLACK COUNTRY.—Drug and Herb Stores; centre of town; capable of big business; going for cash cheap, either with stock and fixtures or fixtures only; suit young man. Apply 43/38, Office of this Paper.

ESSEX (E. London).—Working-class Pharmacy; net profit last three years average £550 per annum; neglected latterly, but still showing steady £8-£9 per week net; undoubtedly do better with full attention; easily run single-handed; fittings not impressive but adequate for district; rent 25s. per week; on lease; owner opening better-class business elsewhere; excellent opportunity for worker to improve; alternatively, comfortable living and sound investment assured; stock and fittings £375; all in, £825. 44/39, Office of this Paper.

GLASGOW.—Established mixed, middle-class Business; average turnover last 4 years £1,200; main thoroughfare; rental £50; will accept as a going concern £375, or stock and fittings at valuation. 41/40, Office of this Paper.

HAVERFORDWEST.—Chemist's Business for sale; premises consisting of lock-up shop, Dispensary and store-room; situate in best street in town; long lease; moderate rent; good reasons for disposal; valuation of stock and fixtures for quick sale. Full particulars, W. J. Jones & Evans, Solicitors, Victoria Place, Haverfordwest.

KENT.—Old-established, good-class Retail and Dispensing Business; Kodak Agency; returns, under management, £2,000; can easily be increased by personal supervision; death sole cause of disposal, main road position; very valuable site; price, property, £2,200 or offer, business £1,500, or valuation stock and fixtures, plus agreed sum for goodwill. Apply to F. G. Wells, 80 Battersea Bridge Road, S.W.11.

LONDON RESIDENTIAL DISTRICT.—Good Retail and Dispensing Business; Kodak Agency; good opening for Optics; long lease; side entrance and garden; price, fixtures, lease and stock, about £650; disposing of business owing to ill-health. 45/15, Office of this Paper.

LONDON SUBURB.—Owner is desirous of selling sound Cash Business in thickly populated district, middle- and working-class; turnover £50 weekly; clear net profit over £600; audited figures; low rent, on lease; fully stocked; cash price £1,500; references required. "Western," 192/829, Office of this Paper.

LONDON, N.—Cash Retail and Photographic Business for Sale; returns last year £4,155; certified net profit £1,300; double-fronted shop, with five rooms over; pleasantly situated; lease will be granted or property may be purchased; room for garage; price to be arranged. Apply "Progressive," 192/828, Office of this Paper.

SOUTH WALES (Market Town).—Good-class Chemist-Optician Business for Sale; well-fitted double-fronted shop; modern house with every convenience; rent £40; long lease; low rates; Kodak and Rexall Agencies; disposal on valuation basis, plus goodwill; a sound proposition. 43/40, Office of this Paper.

LIVERPOOL.—Two City Pharmacies for Sale; would suit multiple firm. Apply, by letter only in the first instance, to J. Duffy, c/o R. Spencer Terry, Chartered Accountant, 41 North John Street, Liverpool. No callers, please!

HERTS.—Light Cash Retail, in growing district; no opposition; modern premises, with garage room; water, electricity and gas; price £1,275. Full particulars, 58/40, Office of this Paper.

MANCHESTER.—First-class suburb; attractively fitted; well stocked; electric light; good living accommodation; goodwill £250, plus valuation, stock and fixtures. Apply 192/823, Office of this Paper.

SOUTH-EAST COAST.—Advertiser can recommend thoroughly genuine Business, capable of considerable expansion, now doing cash turnover approximately £2,000 per annum; pharmacy heavily stocked, spacious, and handsomely fitted; best position main street; Optical connection; long lease; excellent living accommodation; price £2,250, or near offer. "E," 41/26, Office of this Paper.

SOUTHSEA.—Old-established Dispensing, Photographic and Toilet Sundries Business, situated on main thoroughfare; average returns £50 weekly, very steady, audited; accounts available; lease, goodwill and fixtures £1,100, stock at valuation, or offer for the whole; good reason for disposal. 41/33, Office of this Paper.

A REAL OPPORTUNITY.—Business for disposal in town in Derbyshire; main road; corner shop, with living accommodation; unopposed; all cash trade; N.H.I. and Kodak Agency; rent £50, inclusive; death sole reason for disposal; inquiries treated strictly confidential. 31/14, Office of this Paper.

CHEMIST, new residential estate outskirts Leeds; lock-up shop; rent £60; trade £15, good profits; must sell quickly; oak fittings, fixtures, etc., £200; stock at value less 10 per cent. or optional. Firth & Co., 9 Albion Street, Leeds.

FAMILY Dispensing and Photographic; main road, Birmingham; returns £1,350; 37 per cent. gross profit; £13 net rent; rates £36; beautifully fitted; easily worked single-handed; 7 years' lease to run; stock £400; fixtures £300. What offers? 45/24, Office of this Paper.

LOCK-UP Chemist's Business for Sale; opportunity for active person; newly established, but owner unable to give attention; increasing returns; capable of development; £250, or offer. "Suburbia," P.C.B. 7/2, Office of this Paper.

UP-TO-DATE Pharmacy and Optician's Business, taking over £20 a week; plant for own D. & P.; smart double-fronted shop; house in good condition; 30 miles from London; capable of expansion under qualified owner; owner, single, wishes to sell to study for qualification; £400 cash for immediate sale. 44/19, Office of this Paper.

WELL-STOCKED and Fitted Business in centre of large seaside town in Sussex; owner retiring owing to bereavement and ill-health; good opportunity for energetic man; turnover £2,200; price £1,250, or near offer for immediate sale; long lease. 44/32, Office of this Paper.

£450.—MAIN road Business; net profit £500, approximate, C.A. figures; Stratford; rent 30s.; stock valuation; sub-let 27s. 6d. per week; 14 years' lease; for quick sale; greatest bargain ever; must sell; genuine. 43/13, Office of this Paper.

£5,000.—WHOLESALE Toilet Sundries Business for disposal, well organised; sound concern with practically unlimited scope for expansion; same owner 23 years, wishing to retire; extensive freehold premises £1,500, optional; chartered accountant's audit. Inquiries with bankers' references, please, to "Southcounts," 43/5, Office of this Paper.

BUSINESSES WANTED.

YORKSHIRE.—Wanted to purchase Chemist's Business making a net profit of £500 per annum; necessary capital available. 192/826, Office of this Paper.

MESSRS. ORRIDGE & CO. are in a position to dispose of several sound concerns in London or the South; turnover required £2,000 to £10,000; cash waiting; prospective purchasers should apply at 56 Ludgate Hill without delay. Telephone City 2283.

WANTED, sound Business up to £800 (more if part can remain); not single-handed and no Optics; City preferred, but others considered (no seaside or colliery districts); must have lease at reasonable rent, and be nicely fitted. Full particulars, in confidence, in first letter. 41/6, Office of this Paper.

AGENCIES.

IRELAND.—Gentleman, well known, with wide connection leading Chemists and Wholesalers throughout Ireland; wishes further Agencies for known lines; extensive premises for stockrooms if desired. Works, 20 Unity Street, Belfast.

LEADING Foreign Perfumery Manufacturers offer General Agency for Great Britain. Financially sound firms having good connections to the trade and first-class sales organisation please write, with references, to 192/822, Office of this Paper.

OLD-ESTABLISHED firm of British Manufacturers of Surgical Hosiery, Bandages, etc., require an Agent for Eastern Counties, calling on Chemists; liberal commission on all sales in area. Reply 40/28, Office of this Paper.

SALE BY AUCTION.

Re J. D. O. Jenkins. By order of the Joint Trustees under a Deed of Assignment. Removed from Lewisham High Road and Bellingham.

MESSRS. FRYER, COOPER & CO.

will Sell by Auction at their Rooms,
3 Redcross Street, E.C.1.

On Monday, October 12, 1931, at One o'clock,

The clean and well-assorted

CHEMISTS STOCKS,

Fancy Toilet & Shaving Soaps, Hair, Tooth and Shaving Brushes, Perfumery, Manicure Sets, Patent Medicines and Pills, Cod Liver Oil and Malt Extract, Patent Foods, Tooth Pastes and Creams, etc., Stock of Drugs, Cameras and Photographic Materials, and Shop Rounds, together with the

SHOP FITTINGS,

Counter and Wall Show Cases, Apothecary and Baby Scales, etc.

On View Saturday 10 till 1 and morning of Sale.

Catalogues of Parkin S. Booth, Esq., Accountant, The Association of Manufacturing Chemists, Ltd., 14/17 Holborn Viaduct, E.C., and of the Auctioneers.

PARTNERSHIPS.

PHARMACIST (young) desires Partnership in good-class Retail Business; capital for investment up to £500. 44/33, Office of this Paper.

APPRENTICES.

APPRENTICESHIP to Chemist wanted by young man with Medical connections; passed Preliminary; experienced; Newcastle or district. 40/21, Office of this Paper.

APPRENTICESHIP required; Chemist's son; 16½; Scottish Higher Certificate; tall, good appearance, athletic, healthy; some months' experience; with Chemist and Optician and indoors if possible. Particulars to Horeburgh, M.I.C.O., Watton, Thetford.

BRADLEY & BOURDAS, LTD., 43 Warwick Street, S.W.1, have a vacancy for an Apprentice.

EXPERIENCED Indian Student, aged 21, desires Apprenticeship in a Chemist's shop; no remuneration; willing to pay premium if required. P.C.B. 7/4, Office of this Paper.

FOSTER & DALLAS, 1 Lavender Hill, S.W.11, require an Apprentice; unique opportunity for youth wanting good Dispensing and Counter experience; no premium; pocket money first year 10s. per week, second year 15s. per week.

YOUNG lady, 19, requires Apprenticeship with qualified Chemist; Sidcup to Lewisham district. S. Bishop, "Little Birches," 38 Longlands Park Crescent, Sidcup, Kent.

SITUATIONS OPEN.

RETAIL (HOME).

BRISTOL.—Experienced qualified Chemist-Optician, J.C.Q.O., required as Manager for Branch. State age, salary required, references and when disengaged (photo), 43/33, Office of this Paper.

LONDON, OUTER SUBURBS.—Qualified Manager, age 30 to 45 years, required for working- and middle-class Retail and Photo business capable of expansion; permanency for reliable manager. Apply, stating age, full particulars of experience, references and salary required, 192/830, Office of this Paper.

MIDLANDS.—Qualified Manageress required for small shop about end of October; moderate hours; knowledge of Photography; energetic and capable of developing the business; progressive salary and commission to the right person. State experience and salary required and photograph. 44/31, Office of this Paper.

WEST END.—Qualified Pharmacist, one capable of managing and not afraid of work, will be required shortly; must be a good Salesman and Window-dresser. Give full particulars, salary, etc. P.C.B. 7/9, Office of this Paper.

A SMART unqualified Junior required; must be good Window-dresser and Counterman. State experience, salary required, and full details of capabilities first letter. Robinson, 134 Whitechurch Road, Cardiff.

ASSISTANT, unqualified, with high-class London experience and good references, required for October 5; must be thoroughly capable and reliable, a quick and neat Dispenser, and have enthusiasm and energy. P. Bolton, Chemist, 5 Sussex Place, South Kensington, S.W.7.

FIRST-CLASS male Sales Correspondent, with actual experience in fitting Trusses and Abdominal Supports, required by large firm of Surgical Appliance Manufacturers for Sales Correspondence and Fitting; only those who write good, strong selling letters, can fit trusses and abdominal supports, and can start immediately reply. All applications must be in own handwriting, giving full particulars of age, experience, and salary required. 192/819, Office of this Paper.

JUNIOR or Improver for Light Retail. Full particulars, experience, photo (to be returned), references, and salary required. Time for study if required. W. E. Barker, Chemist, Burnham, Bucks.

LADY Assistant with Toilet experience; must be tall; opportunity for gaining knowledge in general Pharmacy. Apply, by letter, stating age, height, salary required, which must be moderate. Moggs & Cunningham, 3 King Street, Twickenham.

PART-TIME Assistant (male) wanted for branch; Thursday and Saturday evenings and Sunday morning. Apply, with full particulars, experience, salary required, etc., to Wm. Fox & Sons, Ltd., 109, 111, 113 Bethnal Green Road, London, E.2. (10 minutes from Liverpool Street Station).

QUALIFIED lady required by private limited company; must deposit £25 as security; Dispensing only; permanent. State wages, etc., to J. Dolphin, 265 Winchmore, Hull.

QUALIFIED Assistant, about 30, good appearance and personality, efficient Prescriber and Dispenser, original Display ideas; only those who can faithfully fill above conditions need apply. Photo (with stamped envelope), references and salary required, to Beveridge, 10 Stuart Road, Gillingham, Kent.

QUALIFIED lady Assistant required at once as Superintendent; South-East Coast; previous experience not essential. State salary required. 45/17, Office of this Paper.

QUALIFIED Manager who will invest £100 in business and live on premises; Southern County; cricketer well treated if playing "cricket"—no perpetual cigarette smoker need apply. Full particulars, education, experience, age, height, etc., to 44/4, Office of this Paper.

WANTED, soon, a qualified or unqualified gentleman for a good-class country business; post suitable for a married man; accommodation available. Please give in first letter age, height, experience, references, when disengaged, and salary required, also enclose snap. D. Lewis, M.P.S., Tisbury, near Salisbury.

WANTED, immediately, tall, smart Junior Assistant; unqualified; good-class Counter experience essential. State salary required and usual particulars. Reply, S. B. Allen, Chemist, Lowestoft.

WANTED at once, qualified Assistant; good Window-dresser and Salesman, used to N.H.I., etc. W. H. King & Co., Chemists, 114 Fortress Road, N.W.5.

LONDON, W.2.—Wanted, qualified Assistant; smart; energetic; good Counterman, Window-dresser; accustomed to N.H.I.; good references essential; Prescriber. Windle & Co., 452 Edgware Road, W.2.

WHOLESALE.

LONDON REPRESENTATIVES AND AGENTS.—An additional quick-selling line. Representatives, with sound Retail connection, are required on liberal commission basis for a new non-competitive Pharmaceutical line; definite areas will be reserved. Particulars to 43/15, Office of this Paper.

MANAGER required by first-class Foreign Perfumery Manufacturers for London branch. Only efficient and highly qualified experts with exceptionally good connections to the trade and first-rate references need apply to 192/821, Office of this Paper.

MANUFACTURING firm requires experienced Representatives, on commission, calling on Hairdressers, Chemists, Stores and Wholesalers, for Toilet and Perfumery in packed lines and bulk; modern, attractive packs; competitive prices. Districts open: Yorkshire and North of England; the West of England and South Wales; Southern Counties; and East Counties; liberal commission; no objection to other lines (non-competitive) being carried. Full particulars and past experience. 192/824, Office of this Paper.

REPRESENTATIVE required by well-known firm of manufacturers, must have a first-class connection with London Chemists, to take over present connection on a part-time basis; commission and travelling expenses. Reply, stating line carried at present, 40/30, Office of this Paper.

REPRESENTATIVE required by manufacturers to sell to Chemists first-class range of Specialities sold under "Known, Admitted and Approved Remedies Concession"; salary and commission; progressive position; suit smart young assistant who is salesman. Correspondence treated in confidence. Apply 45/14, Office of this Paper.

SURGICAL Appliance and Truss Fitter (male), experienced in Sales Correspondence, required by well-known Surgical Appliance Manufacturers for Fitting and Correspondence Departments; must be able to commence immediately. Replies must be in own handwriting, giving full particulars of experience, age, and salary required, 192/820, Office of this Paper.

TO gentlemen having sound connection with Wholesale and Retail Chemists. The M.M.T.P. Co. are widening the scope of their activities (for their popular pack in carton) and offer a profitable proposition to commission Salesmen in centres where not already represented. Write for terms of this daily commodity, with unlimited prospects; give particulars, ground covered, lines carried. The Miss Muffet Toilet Paper Co., 1 Julian Road, West Bridgford, Nottingham.

TRAVELLER-CANVASSER; own locality London district; Retail experience essential; generous commission. Apply "Everyday Household Remedies," 301 Wandsworth Bridge Road, S.W.6. Phone: Fulham 3292.

TRAVELLERS calling on Chemists, Merchants and Shippers wishing to handle profitable side line apply 192/812, Office of this Paper.

WANTED, Representative to call upon the Medical Profession in North Wales and the West Midlands; preferably one with a connection. Apply, stating age, experience and salary required, to W. A. Wharram, Ltd., Wholesale and Manufacturing Chemists, 34 Lady Lane, Leeds.

SITUATIONS WANTED.

RETAIL (HOME).

A.A.A.A.—QUALIFIED Manager; 28; 13 years' experience all branches, including West End; first-class references; permanency; interview appreciated. Write "Trebor," 215 Victoria Park Road, E.9.

A.A.A.A.—UNQUALIFIED; tall; 21; Matriculation; Part I; London and provincial experience; quick, accurate Dispenser (Private and Insurance); Window-dresser; adaptable and willing; available at short notice. 44/5, Office of this Paper.

A.A.A.—AT liberty, a young and up-to-date Pharmacist, of good appearance, with 5 years' varied experience; expert Window-dresser, tactful Salesman, experienced and reliable Dispenser; excellent testimonials. Neal, 24 Vincent Street, Walsall.

A.A.A.—ADVERTISER; 40; unqualified; experienced; 5 ft. 9 in.; abstainer; Locum; permanency preferred; disengaged. Alexander, 189 Southampton Street, S.E.5.

A.A.A.—IS your unqualified Assistant ill or having a holiday? Yes. Then send for me. You will never miss him. I go anywhere within reason. Free October 12. "Mac," 76 Hillfield Road, N.W.6.

A.A.A.—QUALIFIED Scot, 23, seeks change for further experience; London or South Coast preferred; good references; free November 1. Apply "Chemist," c/o Denny, 206 Woodlands Road, Glasgow, Scotland.

A.A.—QUALIFIED Manager, 36, Scot, proved capable business builder, modern ideas, seeks responsible engagement; Middlesex, London suburbs; thoroughly experienced all branches; keen, ambitious worker; sole charge. 43/32, Office of this Paper.

A.A.—ASSISTANT; unqualified; 26; 9 years' good-class experience in London and country, Counter, Dispensing and Photo (including D. and P.); disengaged. Bowler, School House, Haverfordwest, Pem.

A.A.—M.P.S., 26, free shortly, desires re-engagement; permanency; London and provincial experience. L. Baker, 103 Listria Park, N.16.

A.A.—QUALIFIED, 22, desires permanency or Locum; high-class experience in all branches of the trade; thoroughly capable and reliable; disengaged. Varley, 58 Milton Road, West Hartlepool.

A.A.—WOMAN Pharmacist, 20 years' Hospital and general experience, desires appointment; free now; Hospital, N.H.I. or as Superintendent; highest credentials; moderate salary. Rennie, 45 Maldon Road, Brighton.

A.A.—QUALIFIED, 25, desires berth as Manager or Assistant; London preferred, not essential; disengaged immediately. 44/22, Office of this Paper.

CHEMIST, having disposed of his own business, wishes to recommend his late manager for a responsible position. "W. J. C.," 130 Clapham Park Road, S.W.

CHEMIST, qualified, 25, requires situation; London or Southern Counties; permanency; interview; disengaged. "Chemist," 58 Queen's Road, Wimbledon, S.W.19.

CHEMIST requires full- or part-time post; capable Dispenser, good Counterman; able to take charge; excellent references; moderate salary. "H. J.," 5 Alexandra Villas, Finsbury Park, N.4.

COMPETENT woman Dispenser, middle-aged, young personality, offers efficient assistance, Surgery or small Institution, in exchange Unfurnished Accommodation—two persons. "Spero," 5 Cromwell Avenue, Cheshunt, Herts.

COMPETENT, unqualified Assistant (lady) desires post; experienced Dispensing, Counter work, Windows; trustworthy and reliable. 44/13, Office of this Paper.

QUALIFIED Chemist-Optician, M.P.S., F.S.M.C., J.C.Q.O. (male, 25), seeks responsible position as Manager or Senior Assistant; North London preferred. Sharp, 137 High Street, Ponders End.

QUALIFIED Chemist, 25, 8 years' sound experience high-class pharmacy, at present in charge, desires change early November as Manager or Senior; permanency; South-East England preferred. 40/40, Office of this Paper.

QUALIFIED lady (23) desires permanency; good experience; London or suburbs. "H. D.," 1 Hopefield Avenue, Brondesbury Park, N.W.6.

QUALIFIED Assistant; young; good appearance; 7 years' experience; well recommended. Wiseman, 28a Seaside, Eastbourne.

QUALIFIED Chemist, good business builder, desires Managership; London or near; thoroughly experienced in all branches; excellent testimonials; permanency wanted. Sinclair, 7 Oakley Square, Camden Town, N.W.1.

A THOROUGHLY dependable unqualified Assistant seeks berth as Senior; good personality and excellent references; married (no family); interview any time. March, c/o Phillips, 21 Nelson Street, Greenwich.

A CTIVE; unqualified; experienced; middle-aged; reliable Dispenser; Stock; successful Manager; Locum, permanent. Fletcher, 91 Duncombe Road, Holloway, N.19.

A DVERTISER, qualified, seeks management; permanent or temporary; F.B.O.A., F.S.M.C.; registered J.C.Q.O.; moderate salary; thoroughly experienced; keen and tactful. Ellis, c/o Betten, Chemist, Worthing.

A LBERT COOKE, recently qualified, age 21½, medium height, desires position, Assistant or Manager; 4½ years' good-class experience; trustworthy; excellent references. 72 Hodge Road, Walkden, near Manchester.

A N Assistant, 19½, desires permanency; keen; reliable; 4 years' experience; sound knowledge Dispensing (Private and N.H.I.), Photography, Counter; references; disengaged. "K.," 47 Aldbourne Road, W.12.

A NYWHERE.—M.P.S.; 23; 6 years' experience; Photography; Window-dressing Diploma; free immediately. Magraw, 91 Billinge Road, Pemberton, Wigan.

A S Manager; qualified Chemist; age 30 years; West-End, suburban and provincial experience; quick and accurate Dispenser, smart Salesman, Window-dresser, etc.; thoroughly capable and experienced; excellent references will bear strictest investigation; London or Birmingham districts preferred. Write "Chemist," 12 Lonsdale Road, S.W.13.

A S Manager; qualified; tall; 36; good experience, Counter, Dispensing, Photography; conscientious; reliable; good references. 43/30, Office of this Paper.

A S Locum or permanency; Assistant; 23; unqualified; excellent West-End experience and references; all branches; good appearance; disengaged. 45/5, Office of this Paper.

A SSISTANT; unqualified; 25 years' experience in all branches; disengaged; Lancashire preferred. 41/38, Office of this Paper.

A SSISTANT, unqualified, seeks position in Rotherham or Sheffield district; accurate Dispenser, good Window-dresser, tactful Salesman; excellent references. 41/25, Office of this Paper.

A SSISTANT; unqualified; good Counter, Dispensing and Window-dressing experience; age 28; tall; trustworthy; disengaged. Tuck, 71 Wellesley Road, West Croydon, Surrey.

A SSISTANT; experienced Saleswoman; 10 years all pharmacy duties; used to taking charge; excellent references; disengaged; requires permanency. 40/39, Office of this Paper.

A SSISTANT; lady; experienced Retail and capable Dispenser; highest references. "M. P.," 7 Dunbar Road, Forest Gate.

A SSISTANT; unqualified; age 25; tall; 10 years' experience; Counter, Dispensing, Photography, Window-dressing, requires permanency. Williamson, Halmesgate, Spalding, Lincs.

A SSISTANT; unqualified; 28; competent Dispenser and Salesman; 12 years' experience; capable taking charge; keen and reliable; excellent references; free now; Locum or permanency. Smith, 6 Langleigh Terrace, Ilfracombe.

A SSISTANT (22), referred Part II, requires post; London preferred; good Counter and Dispensing experience; conscientious ready worker. "W.," 5 Clovelly Avenue, Hendon, N.W.9.

A SSISTANT, unqualified, 24, desires post anywhere London or S.E.; tall; 7 years' excellent experience in Dispensing, Toilets, Perfumery, Window-dressing, Photography; London, Provincial and East Coast; capable of taking charge. "Disengaged," 60 Parrock Avenue, Gravesend, Kent.

A SSISTANT, qualified, 22, requires situation; 6 years' Retail experience; excellent reference; salary £3 15s.; London or vicinity preferred; at liberty when required. 28 Flask Walk, N.W.3.

A SSISTANT (lady); unqualified; tall; 12 years' good general experience, Counter, Dispensing, Photography; 3½ years last position; keen; energetic; reliable; can take charge; disengaged. Doggrell, 22 Kings Park Road, Southampton.

A SSISTANT, unqualified, middle-aged, requires whole or part time; Wholesale or Retail; good Dispensing and all-round experience; excellent references; Birmingham district preferred. "Aspirin," 69 Halesowen Road, Old Hill, Staffs.

A SSISTANT; referred Pharmacy; 21; big multiple company and other experience; conscientious worker; Leeds or any other district. C. Binns, 3 Intake Mount, Middleton, Leeds.

B OOK-KEEPING.—Your Accounts kept monthly and brought up to date for Audit and for Income Tax Returns; moderate fee. Write, making appointment, 192/825, Office of this Paper.

B USINESSLIKE, energetic Assistant, with 4 years' high-class experience in cathedral city, requires post; London essential. 41/37, Office of this Paper.

CHEMIST; qualified; tall; good appearance; 24; 7 years' North England experience; used to heavy Private and N.H.I. Dispensing; Senior, Assistant or Manager. McCrum, Eltrick Grove, Sunderland.

CHEMIST and Druggist (M.I.C.O., lady) requires position; willing to open Optical department. 72 Chelsham Road, S.W.4.

CHEMIST (qualified), 30, good all-round experience, desires position of trust as Manager or otherwise; undenial references. 192/827, Office of this Paper.

DOCTOR desires change occupation; Wholesale or Retail; served one year apprenticeship pharmacy; life abstainer. Particulars, interview. P.C.B. 7/6, Office of this Paper.

EXPERIENCED Assistant desires post; Counter, Dispensing, Photographic, Toilet, etc.; references; capable taking charge; salary 57s. 6d. week. Apply "Energy," 41/4, Office of this Paper.

EXPERIENCED Assistant; unqualified; age 22½; well recommended; efficient and quick in all branches; able to take charge; engaged in South London at present; available at one week's notice. Matthews, 7 Hurnhill Road, Beckenham, Kent.

EXPERT Salesman, specially trained, unqualified, as Manager or Assistant; 32; married; 16 years' experience; accustomed to quick turnover; Photography, Optics; all-round knowledge and experience; free October 5. Marsh, 141 Claremont Road, Blackpool.

EXPERIENCED; unqualified, but competent; tall; Scot; many years' good all-round experience, Dispensing, Counter, Photo; quick, clean, accurate; highest references; free end October. Johnstone, 11 Rosebery Avenue, Gloucester.

FREE—Manager, qualified, 35, fully experienced, desires permanency or Locum; town or country. Catt, 5 Chelsham Road, S.W.4.

GENTLEMAN, M.P.S., 27, 5 ft. 11 in., good appearance and address, desires change, Manager or Senior; 12 years country and West End; good Window-dresser and Counter hand, quick and accurate Dispenser; excellent references; present managership 3½ years; disengaged shortly after suited. 42/11, Office of this Paper.

IMPROVER. Miss Clothier recommends her apprentice as all-round Assistant; Counter, Photography, Window-dressing, Dispensing. Wynn, 24 Broadway, Maidstone.

J.C.Q.O., London, Manager, 50, desires change with prospective; present post 5 years; post wanted where personal interest would be appreciated; own instruments. "M.P.S., F.H.O.A., F.S.M.C., F.I.O.," 18 Brookfield Road, W.4.

JUNIOR; 21; whole or part time. Hawley, 83 Winchcombe Street, Cheltenham.

JUNIOR Assistant (lady); 3 years' experience in good-class business; Window-dressing and Stock, Counter, Photography. "V. A. S.," 58 Hockliffe Road, Leighton Buzzard, Beds.

JUNIOR Chemist's son, 21, desires post in good-class pharmacy in London; excellent references; 4½ years' experience. Bingham, "Homeleigh," East Borough, Wimborne, Dorset.

LADY Chemist, 23, qualified, desires Locum work or permanency; well educated; keen and competent; 5 years' experience in high-class business; full charge buying for two years; accept situation anywhere. 42/4, Office of this Paper.

LADY Assistant (Hall), 8 years' excellent experience, Dispensing and Counter in West End and districts, desires post with Chemist or Doctor; Locum or permanency; pleasant personality. "Radix," 26 Lyndhurst Gardens, Newbury Park, Hford.

LADY, passed Part I, desires position; permanency or Locum; good Dispensing and Counter experience. Spence, 18 Langley Road, Tooting. Phone: Streatham 5760.

LADY Pharmacist requires whole, part-time or Locum position; excellent experience and testimonials. "Pharmacist," 252 Elgin Avenue, W.9.

LADY Dispenser-Book-keeper (Hall), five years' experience, requires post, Chemist or Doctor; Manchester, Bury or Bolton districts. "M.," 2a Wyresdale Road, Bolton.

LADY Assistant; age 20; daughter of provincial Chemist; well trained and experienced; Photography, Salesmanship, etc.; attentive, active and anxious to please; best credentials. Write Miss Ellis, c/o Misses Lewis, 3 Mysore Road, Clapham Junction, S.W.11.

LADY, 24, unqualified, requires position; good Dispensing and general experience. "D.," 14 Tennyson Avenue, Twickenham.

LEEDS AND DISTRICT—M.P.S., 23, desires position, Assistant or Manager; keen, capable Salesman, good Window-dresser and Dispenser. 41/24, Office of this Paper.

LOCUM; M.P.S.; 37; disengaged for few weeks; London references; recommended. Leith, 40 Warescot Road, Brentwood, Essex.

LOCUM, or part-time; good references; disengaged. "S. S.," 135 High Road, Lee, S.E.13.

LOCUM; M.P.S.; elderly; good experience; excellent references; moderate terms; period or permanent; now disengaged. J. S. Wellburn, c/o Mrs. Brock, 10 Leyland Road, Lee, S.E.12.

LOW salary and commission; Liverpool or near; qualified; 37; 7 years own account. Nicholls, 29 Huskisson Street, Birkenhead.

MANAGER, qualified, Scot, married, experienced, particularly in sales and display, good reasons for change, excellent references, desires permanency where scope for ability and initiative given. P.C.H. 7/1, Office of this Paper.

M.P.S. desires permanency as Manager or Assistant; excellent references; West England or South Wales preferred, but not essential. Davies, 104 Clapham Road, S.W.9.

M.P.S., elderly, offers part-time assistance or superintendence; indoors preferred; 2 years' Continental experience. P.C.B. 6/21, Office of this Paper.

M.P.S., 25, requires position as Manager or Senior Assistant; London area; excellent all-round experience; good appearance and address; interview essential. 43/9, Office of this Paper.

M.P.S. (22) desires permanency; all-round experience; Dispensing, Counter, Windows. Mullineaux, 2 Daggers Hall Lane, Blackpool.

M.P.S., age 33, height 5 ft. 6 in., married, smart, conscientious, steady, present managership five years, seeks near future sound permanency with more prospects. "W.," 220 Camberwell New Road, S.E.5.

M. R. A. H. BELL, Ph.C., Mansfield, recommends E. S. Hutchinson (22) as an efficient Assistant; Counter and Dispensing; recently qualified. Address: "Lingwood," Berry Hill Lane, Mansfield.

OCCASIONAL duty by qualified, experienced man; elderly; full charge; at liberty; £3 per week, plus rail fares. Address "Dallas," 7 Gill Street, Nottingham.

PART or whole time; 12 years' City and West-End experience; S.E. district. Crowther, 18 Elm Road, Beckenham.

PHARMACIST, free, Manager or Dispenser, competent, trustworthy, good experience, requires post immediately. Pugh, 4 St. Elms Road, Bromley, Kent.

PROGRESSIVE post desired by Assistant, 39, unqualified; 20 years good-class Retail, conversant with heavy private Dispensing business; would manage Drug Stores. Address until October 3, "Phenazone," 71 Cranworth Road, Worthing. After, 17 Park Avenue, Leicester.

QUALIFIED man seeks a permanency; high-class West End and provincial experience; October 8. York House, College Road, Maidenhead.

QUALIFIED; Manager, Assistant; age 35; 15 years' experience all branches Retail; keen Salesman and Window-dresser; capable organiser; tall, smart appearance, energetic; reliable; anywhere; disengaged now. 42/3, Office of this Paper.

QUALIFIED Manager, 27, Scot, desires post in London area; splendid experience; proved business builder; keen Salesman, trained Window-dresser; increasing business now in charge of; interview if desired. 41/7, Office of this Paper.

QUALIFIED, 27, desires post, Senior or Manager; good all-round experience, town and country; free October 24; anywhere; moderate salary. Powell, "Ba-Har," Waterloo Road, Haslington, Crewe.

QUALIFIED, City and University experience, seeks post; Manager or Assistant. "Chemist," 86 Manchuria Road, S.W.11.

QUALIFIED Manager or Locum; N.H.I. W. Thorley, 27, Crouch Hill, N.4.

QUALIFIED Assistant, age 24, requires permanency; 7 years' experience in high-class business; excellent references; moderate salary. Garland, 22 Effingham Road, St. Andrew's Park, Bristol.

QUALIFIED; 40; smart appearance; fully experienced; Dispensing, Window-dressing; highest references; at liberty. "Chemist," 18 Windsor Road, Southport.

QUALIFIED; 29; single; experienced West-End, Continent and Branch management. Bailey, East View, Nautwich.

QUALIFIED Lady Assistant Dispenser (Hall) requires post; excellent references; whole or part time. 8 Prestouville Road, Brighton.

QUALIFIED desires permanency; hard worker; good experience; would manage; S.W. district preferred. Rutter, 115 Langley Road, S.W.17.

QUALIFIED, 28, Manager, excellent experience and references, requires management of good-class business; Kent, Surrey, S. London. 45/10, Office of this Paper.

QUALIFIED, 25, requires a change of surroundings; tall; varied experience; excellent references. 45/26, Office of this Paper.

SCOT; qualified; 23; quick Dispenser, Window-dressing, Prescribing, good Salesman; keen, energetic. "Mac," 38 Dartmouth Road, N.W.4.

ALL DRUG CLERKS AND FOREMEN

should join at once

THE NATIONAL UNION OF DRUG & CHEMICAL WORKERS

(Incorporating the National Association of Chemists' Assistants)

BENEFITS: Trade Protection—Legal Aid—Unemployment**Benefit—Free Use of Employment Bureau.**

Write for particulars—ARTHUR J. GILLIAN, Gen. Sec.

149 NEWINGTON CAUSEWAY, LONDON, S.E.1

SEASIDE, with possible view to purchase in a year or so; qualified; married; over 40; fully experienced; 4 years' seaside management. N. Spencer, Harcourt House, Camberley, Surrey.

SMART unqualified Assistant, 24, requires position immediately; Dispensing, Photography and Window-dressing; excellent references and a good experience. Taylor, 31 Cumberland Street, Cardiff.

UNQUALIFIED; 23; capable; energetic; Dispensing, Counter; good references; disengaged; any district. Jackson, 100 Baron's Court Road, West Kensington.

UNQUALIFIED; 24; first-class Dispensing experience; City, West End and country; good references. C. Hunter, 7 Redburn Street, S.W.3.

UNQUALIFIED Assistant, tall, nine years' experience, Counter, Dispensing, requires permanency; free now. "Statim," 147 Kennington Park Road, S.E.11.

UNQUALIFIED; 20 years' experience Dispensing, Counter, Photographic; disengaged; Locum accepted. Harris, 8 St. James Street, Newport, I.O.W.

WHOLESALE.

A.A.A.—CHEMIST, with large connection amongst Doctors, Chemists and Hospitals on the South of England, wishes to represent a good house; own saloon car. 42/5, Office of this Paper.

A.A.—REPRESENTATIVE, with big connection amongst Chemists in South Wales and West of England, desires to represent reputable firm; own car. 42/50, Office of this Paper.

A QUALIFIED Chemist desires Laboratory or other work; knowledge of Dangerous Drugs and Doctors' requirements. 42/51, Office of this Paper.

ADVERTISER, 27, 12 years' Retail Pharmacy experience, wishes to represent Manufacturers or Wholesale House. Hawkins, 55 Abbots Park Road, Leyton, London.

ADDITIONAL Lines, must be quick selling and competitive, required by Agent for London area. 44/361, Office of this Paper.

ADVERTISER, qualified, desires position as Representative, or will undertake Propaganda work; 25 years in drug trade. 44/360, Office of this Paper.

BUYER, with complete knowledge of Patent Medicines, Dressings, Sundries, also of Sales Management and Organisation, would like to get in touch with firm desirous of building London organisation. 44/36, Office of this Paper.

EXPERIENCED Representative, connection London and Suburban Chemists, Hairdressers, Doctors, Stores, requires engagement with good House, Drugs, Toilets, etc. 43/31, Office of this Paper.

GENTLEMAN, having disposed of his retail business, desires post as Representative for Wholesale house in London or Ireland; age 40; good appearance and Salesman; cheerful disposition. Apply "Push Trade," 40/5, Office of this Paper.

PHARMACIST (26), sound Retail experience, desires progressive position with Wholesale House. 44/3, Office of this Paper.

PILL Maker; disengaged; specialist in all branches of making and coating; 26 years' experience; capable of taking charge. 41/5, Office of this Paper.

RELIABLE Checker, 14 years' all-round experience, excellent references, requires position in Midlands or South in Wholesale House. 41/36, Office of this Paper.

SUBSTANTIAL investment in return for executive position of scope with firm operating in or near London; young Public Schoolman, with valuable business and administrative experience, plus Pharmaceutical training, desires to join Wholesale House, Manufacturing concern or chain of shops. P.C.B. 6/23, Office of this Paper.

TABLET Maker; disengaged; thoroughly experienced in all processes and up-to-date methods; good references. "Tablets," 73 Clondesley Road, Barnsbury, N.1.

CLEAR OUT—your Old or Damaged

Stock of Photo Goods

Why keep them any longer? Turn them into CASH.

I GIVE BEST PRICES for Old Films (damaged, fogged or expired dates); Packet

Papers, Cards (any sizes), Old Photo Goods or Cameras,

Bromide Papers, Plates (all sizes, all makes). Send any

goods in the photo line. I buy all, good or bad. Cash per

return. A good price for all Cameras. Send them along.

S. E. HACKETT, 23 July Road, Liverpool

UNQUALIFIED desires situation, Wholesale, Retail, Manufacturing, Laboratory; Salesman; 5 years' West-End Retail experience; age 22. Gerrard, 42 Park Avenue, Wood Green, London, N.22.

WORKING Foreman, young, seeks situation; 20 years' good all-round experience; Manufacturing Pharmaceutical and Toilet Preparations, etc. "L. B.," 51 Farmilo Road, Leyton, E.17.

COLONIAL, INDIAN AND FOREIGN.

QUALIFIED Scot, 25, well educated, experienced Dispensing and Counter, 2 years West End, desires appointment abroad; Wholesale or Retail; excellent references. 41/17, Office of this Paper.

FOR SALE.

SPARKET BULBS, "C" size, in original cartons of six boxes, 27s. per dozen boxes, 3 dozen carriage pair; Jasmín del Pais Face Powder, Soap, 3 tablet boxes; Bathodora, half retail price; Movit Corn Pencils, 6s. dozen; 1s. 9d. Corofix, 11s. dozen; Crown Smelling Salts, 1s. 6d., 1s. 9d. and 2s. 6d. size, half price; also 2s. 6d. and 5s. Rhinex. Davis, 2a Gadsby Street, Bedford.

MISCELLANEOUS.

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